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THE

CARE AND EMPLOYMENT OF THE TUBERCULOUS EX-SERVICE MAN AFTER DISCHARGE FROM THE SANATORIUM

B.T.S.C. CONFIDENTIAL REPORT No. 6. (1-12-20)

D. S. C. R.

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OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1921

To

THE DIRECTOR OF MEDICAL SERVICES

DEPARTMENT OF SOLDIERS' CIVIL RE-ESTABLISHMENT

OTTAWA

THE

Care and Employment of the Tuberculous Ex-Service Man After Discharge from the Sanatorium

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CONFIDENTIAL REPORT No. 6. (1-12-20)

SUBMITTED BY

THE BOARD OF TUBERCULOSIS SANATORIUM CONSULTANTS

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OTTAWA

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The Care and Employment of the Tuberculous Ex-Service Man After Discharge from the Sanatorium

To the Director of Medical Services,
Department of Soldiers' Civil Re-establishment of Canada,
Ottawa.

1. The Board of Tuberculosis Sanatorium Consultants appointed by you was instructed in your letter of 16/4/20, amongst other matters, to "study in general the whole question of the treatment of tuberculosis occurring among ex-members of the Canadian and Imperial Forces in Canada," and to give special consideration to "the general question of the after-employment of S.C.R. patients discharged from sanatoria."

2. Under date of 19/5/20 we submitted to you a confidential interim report (B.T.S.C. Report No. 1) in accordance with your verbal instructions received on 16/4/20 to report upon the application of Order in Council P.C. 2328 to tuberculous substandard ex-service men in Toronto and Hamilton as being demonstrated at the Curative Workshops already established in those cities.

3. In addition to the sources of information referred to in our Report No. 1, an effort was made to gather additional information bearing on the subject of the present report from the D.S.C.R. officials of most of the unit areas and from the patients and staff at each sanatorium visited during our tour of inspection, the itinerary of which is set forth in our Report No. 4.

At the meeting of patients held at the sanatoria visited suggestions for post-sanatorium employment were invited and those made were discussed at some length by the various members of the board together with the principles which should govern the employment and other efforts towards re-establishment on behalf of the tuberculous.

4. Some effort was also made to gather information bearing on the local conditions prevailing in the neighbourhood of each sanatorium visited with regard to employments which might be suitable for ex-sanatorium patients.

A special effort was made to investigate and study the suitability of fruit growing as carried on in the Okanagan Valley, British Columbia, as employment for the tuberculous ex-service man.

5. The Memorial Workshop (Incorporated) at 163 Ontario street, Montreal, was briefly inspected.

6. In order to endeavour to gain familiarity with the methods being employed, particularly in Great Britain, as well as in the United States and other countries, a survey was made of the literature bearing on the subject of after-care and post-sanatorium employment of the tuberculous as contained in a number of miscellaneous reports, bulletins and articles, as listed in an appendix to this report (Appendix No. 1) and in articles published during the last three to five years in the following medical journals:—

The British Medical Journal.

The Lancet.

The British Journal of Tuberculosis.

Tubercle.

The American Review of Tuberculosis (and abstracts published therewith selected from other journals).

The Reports of the (American) National Tuberculosis Association.

The Reports of the Canadian Association for the Prevention of Tuberculosis.

7. In some 168 references to the subject in question, contained in articles, notes and letters which were discovered and perused in the files of the "British Medical Journal" for the years 1916 to September, 1920, and of the "Lancet" for the years 1917 to September, 1920, it is significant to note that no evidence was submitted with regard to the results obtained by the methods or schemes of after-care and post-sanatorium employment, advocated or reported upon, which could be considered conclusive, as in most instances the data discussed had reference either to too limited numbers of patients or to too brief a period of time, or more frequently to both. This is most noteworthy when it is remembered that, both in advocating and putting into practice methods designed to solve the post-sanatorium problems of the consumptive, the anti-tuberculosis movement in Great Britain is recognized to be in advance of that in most parts of this continent.

WHY POST-SANATORIUM CARE IS NECESSARY

8. Though there are a number of conditions which modify the problem of dealing with the ex-service man suffering with tuberculosis acquired on service, as compared with that of handling the civilian consumptive, it must be recognized that fundamentally and from a purely medical standpoint, both classes of patients share many similar problems as well as the same disease. Consequently any discussion of underlying principles based on experience gained in dealing with civilian patients can be applied to the consideration of the ex-service man's difficulties provided the modifying circumstances be kept in view.

Perhaps the most outstanding of these, judging from experience gained in caring for consumptive soldiers overseas and from opinions expressed by Sanatorium Superintendents throughout Canada, is the apparently greater reluctance on the part of many ex-service men to carry out the treatment advised so as to secure the maximum dividend of health from the time invested. Some are impatient to leave long before their condition justifies it, while others object to being told they are ready for discharge before they themselves feel they want a change. Resentment against the necessary disciplinary control and other restrictions arising out of institutional treatment, particularly the very essential limitation of leave of absence, is also accentuated in many ex-soldier patients. In addition to a diminished sense of personal responsibility, a legacy of army life, these differences may be partially accounted for by a lessened incentive towards achieving a prompt, complete and permanent recovery from a disease slow to respond to a method of treatment which is essentially monotonous. The knowledge that pay and allowances, including those to dependents, continue while the patient remains under treatment, and that if relapse results from abandoning treatment too soon, retreatment with pay and allowances is always available, undoubtedly partly accounts for this. On the other hand, physically the Canadian tuberculous ex-service men on the whole should have a better prognosis than

the average civilian patient, owing to the better opportunities afforded, for earlier diagnosis, as well as for prolonged treatment free from the majority of the civilian patient's financial worries. In this connection it might be noted that the fact that tubercle of lung was not officially diagnosed in the British soldier until he became an open case with positive sputum renders his prognosis less favourable than that of the average Canadian and somewhat influences the treatment and after-care applicable to each.

9. The undeniable value of sanatorium treatment by itself has long been over estimated in the minds of both the medical and lay public. They have been apt to fail to realize the relapsing nature of tuberculosis and to regard the termination of sanatorium residence as indicating that finality of treatment which discharge from hospital generally implies in the case of more acute diseases. On the other hand, a dawning appreciation of the fact that in many cases the result of sanatorium treatment is to produce merely a temporary arrest of the tuberculous process is evidenced by a tendency to discount, not only the exaggerated hopes of what sanatorium treatment was supposed to be able to accomplish but also the actual value of the results being obtained.

It is probably not an exaggeration to say that "any scheme which does not include the whole life of the consumptive must end in failure" (1).*

10. "Records of actual results" of sanatorium treatment alone, however, are truly apt to form "lugubrious reading" (2).

Dr. Taylor, Tuberculosis Officer, County Boro of Halifax, England, states that of 1,914 insured persons applying for sanatorium benefit traced after some five years, 76.5 per cent were dead and of 23.5 per cent living half were unable to work. It is only fair to state, however, that it is probable that an unduly large proportion of these cases were advanced and highly active as well as unable to avail themselves either of institutional treatment for a reasonable period or of any effective scheme of after-care.

Of 1,484 ex-service tuberculous patients discharged in 1919, by the County of London Insurance Committee, 47 per cent were unfit for work at the time of discharge while 2 per cent had died while receiving treatment. Statistics with reference to patients discharged from the Trudeau Sanatorium at Saranac Lake, New York, show that after twenty years over 80 per cent had died, in 92 per cent of whom (or 75 per cent of the total) the cause of death was given as tuberculosis (3).

The mortality amongst patients discharged from the King Edward Sanatorium, Midhurst, England (4) also compares very unfavourably with equivalent samples of the general population, but in this connection it should be noted that no comparison can be made of the treated with the untreated tuberculous as statistics of the latter class are not available and therefore condemnation of sanatorium treatment based on this evidence alone is unwarranted.

The results of an investigation undertaken in 1913 by the New York City Department of Health (5) are rather interesting as indicative of the necessity of after-care and some special industrial provision to consolidate the benefits of sanatorium treatment. The patients whose cases were investigated had been treated at the Municipal Sanatorium at Otisville, the New York State Sanatorium at Ray Brook, and the Montefiore Home County Sanatorium. Investigation of the working capacity of 273 patients discharged during the years 1905 to 1910, inclusive, disclosed the fact that "of 62 cases discharged as cured, but 44 were working; of 75 discharged as arrested, 53 were working; of 89 classified as improved 50 were working; and of 47 unimproved 18 were working." In other words, of the "cured" and "arrested" cases only 71 per cent were at work, while of the "improved" only 56 per cent and of the "unimproved" 38 per cent were working. Of the total of the four classes considered

* This and similar numbers in parenthesis throughout text refer to literature consulted and abstracted or quoted as indicated in Appendix I.

only 60 per cent were working. A similar study made in December 1916, of the condition of 1,056 patients discharged from the Massachusetts State Sanatorium from May 1912, to May 1914, showed only 29 per cent "in good condition and at work."

11. Upon such evidence, which could be greatly amplified if desired, is based the belief that has long prevailed amongst anti-tuberculosis workers that valuable as the sanatorium has proved itself to be in the campaign against the disease it cannot, alone and unaided, produce the best and most permanent results. In fact much of the money and time invested in sanatorium treatment is dissipated by the necessity of the patient returning to live and work in an unsuitable environment after discharge.

12. There is much truth in Krause's remarks on the subject when in speaking of "the man sick with tubercle" he says, "It is his reaction to his environment that brings him to the sanatorium; it is his reaction to the ideal environment of the sanatorium that sends him out apparently cured; it is his reaction to environment that sends him back to the sanatorium." He gives full credit to the value of sanatorium treatment while recognizing its limitations when he adds—"the sanatorium is in no way the beginning and end of the struggle. It is a link—a way station, but by all odds the most important way station, the one most fruitful in results yet devised or imagined." It is not the fault of the sanatorium that patients have to return to it. It is the fault of conditions outside of the institution and of the relapsing nature of pulmonary tuberculosis.

13. "This disease demands concessions in the manner of living usually of a permanent nature, from all persons in whom it has been definitely recognized. The amount of after-care necessary is in most instances proportionate not only to the degree of relative recovery obtained by treatment but also to the original type and degree of illness. The first two years after the patient has left the sanatorium will greatly determine whether the improvement is to be permanent, but the struggle for victory will seldom be finally won in less than four or five years of consistent watchfulness."

"No chronic organic disease improves so readily if given half a chance as tuberculosis, and, because of this tendency to apparent recovery, really unsound methods, as well as sound methods of treatment, may frequently bring about considerable real or seeming improvement. The appearance and feeling of robust general health may be quickly acquired, but the local disease in the lung, which has been months or years in undermining the general health, will subside in activity and in degree only after the improved constitutional condition has been long maintained. The security of the result will depend upon the amount of repair effected in the diseased area by the improved constitutional condition, or rather by the elaborate defensive agencies of the body, of which inward and physical graces, the improved general condition is the outward and visible sign. This ready response to treatment shown by outward signs of improvement is in itself a pitfall to the individual, as he naturally considers it an index of the slight danger of his disease, and he is tempted, through the feeling of well-being to require too much of his more slowly improving lung. If the patient did not so rapidly enter a fool's paradise of seeming security, but instead felt his illness in proportion to its degree throughout the period of his recovery, relapse would be much less frequent."

"The prompt improvement made by a patient after entering a sanatorium, and the unfortunately short term due to economic conditions, have combined to bring sanatorium treatment, as ordinarily understood, under criticism. Excellent as are the results to be obtained by this method, it is well known that relapses frequently occur. Because sanatorium treatment, thoroughly carried out for a long enough period in suitable cases, can bring about astonishing recoveries in a disease which was thought quite incurable before the sanatorium method was developed, similar

results are now expected in all classes of cases. Moreover, permanent results are expected from a term of treatment, long enough only in most cases to bring about the appearance and feeling of well-being, without materially affecting the character of the disease in the lung. This incomplete result is doomed to future failure unless a prolonged after-cure is carried out. The rigour of this after-cure must depend upon the severity of the case."

"To maintain the ability of a patient merely to care for himself is better than to induce physical bankruptcy, through overstrain, and, up to a certain point, better economy. Criteria of successful treatment differ somewhat, according to the critic's point of view. Capacity to work with arrest of the disease, a highly desirable condition to obtain, is from the economist's standpoint the only successful result. The ability to keep the disease quiescent, and to live an ordinary life, without being in any sense an invalid, with or without a modified working capacity, is a result fairly satisfactory to the patient and his relatives. From the patient's standpoint at least, the knowledge of how to live a relatively comfortable semi-invalid life, avoiding the pitfalls that would mean disaster, is a result of sanatorium treatment not to be despised." (Parfitt) (7.)

This is perhaps particularly applicable to a certain proportion of ex-service patients whose economic situation on account of their pension is superior to the civilian's.

14. Woodhead and Varrier-Jones discussing the situation in England say emphatically (8): "The great and urgent need is for a rational and national system of "After-care." This has been recognized in the case of the civilian who returns from a sanatorium; there is an equally urgent need in the case of the returned soldier."

15. It is not too much to say that amongst tuberculosis workers there is not a dissenting voice as to this need, it is indeed the dominant note at all conferences, though the same unanimity cannot be said to exist as to the means to be employed to meet it.

16. That this aspect of the question has been impressed upon the Special Parliamentary Committee on Pensions and Re-establishment by the evidence laid before it, may be gathered from the words of its chairman, Major Hume Cronyn, when moving the consideration of its Third and Final Report in the House on June 22, 1920, (9). After referring to the sanatorium treatment of the tuberculous he added; "But it is now apparent these efforts must be further supplemented by a widespread system which will follow the patient after his discharge from a sanatorium, and make provision against the recurrence or reactivity of his disease."

FINANCIAL COMPENSATION

17. If the urgent need of systematized after-care is admitted, its main objective from a health standpoint might be briefly summarized as the prevention of relapse, or its postponement for as long as possible. In attaining this objective the financial compensation or assistance, which the tuberculous ex-service man receives from the Government, whether in the form of pension or pay and allowances, is manifestly a very important factor and cannot be omitted from a discussion of after-care, although it is recognized that the responsibility for this provision does not rest alone with the Department of Soldiers' Civil Re-establishment. As we have urged elsewhere (B.T.S.C. Report No. 1), this monetary provision should be sustained throughout the whole period of readjustment* following the patient's discharge from the sanatorium and it should be adequate to defray all necessary expenditures.

18. In recommending for adoption the new scale of pensions which had been determined upon and which on the 1st of September, came into effect (viz: a 50 per

*For definition *vide* Section 114, page 37.

cent bonus added to the standard or basic rate of 1917) we feel that the Parliamentary Committee showed that the amount of the 100 per cent disability award compared favourably with the salaries being paid to civic employees throughout Canada, and was sufficient to cover the average cost of living as indicated by the reports of the Department of Labour and the results obtained by "exhaustive study" by competent and disinterested investigators both Canadian and American (9). We recognize further that a comparison with pension scales of other countries shows that Canada has awarded greater compensation to her disabled men than has any other country, with the single exception of the United States in the case of a pensioner without dependents (9). It is obvious also that the pension scale must be uniform throughout the whole country irrespective of local conditions affecting the cost of living. Though an increased scale for tuberculous pensioners would doubtless meet with severe criticism from those suffering from other disabilities, nevertheless we feel that the peculiar characteristics of the disability resulting from tuberculosis and the special demands on the patient's income required to secure, or even to maintain, quiescence or arrest of his disease, would at least justify the most liberal application of the existing scale and (for those actually 100 per cent disabled) of the helplessness allowance. This liberal application should, we feel, be based upon a generous interpretation of the degree of disability in each individual case since a special and increased pension scale for the tuberculous is probably impracticable.

19. Bardswell, at a Royal Sanitary Institute Conference in 1919 (10), went so far as to say "A tuberculous person, so long as he was a tuberculous person, should have the full rate of pension." The close relationship between the patient's income and permanency of sanatorium results is well illustrated in a comparison by Lyman (11) between Gaylord Farm and Otisville Sanatorium dischargees where the much better result in the case of the former is accounted for by the fact that their average weekly earnings were more than double that of the latter.

20. *Tuberculous Pensioners' Requirements.*—The tuberculous pensioner, perhaps more than any other, requires generous consideration financially, partly because of the demands that must be made upon his income to render his dietary suitable to his special needs. His special requirements also in the way of fuel and clothing and possibly in structural alterations or adaptations of his dwelling, to enable him to live according to the recognized principles governing the treatment of his disease, are legitimate reasons for additional financial provision. Furthermore, the prognosis of a tuberculosis patient is undoubtedly most unfavourably affected by depression resulting from any anxiety over the straitened circumstances of himself or his family. "A lean purse is the main cause of relapse" (7).

21. *Tuberculous Pensioners' Limitations.*—The determination of the degree of disability of the tuberculous man is one of peculiar difficulty. A wide latitude in the direction of the most generous interpretation of the Act both as regards the amount and duration of the pension awarded is justified as his "working capacity appears greater than it really is." (British Inter-Departmental Committee on Tuberculosis) (12). He requires a longer time to recover from fatigue than the normal man or a completely cured amputation or other surgical ex-patient. Auto-inoculation from relatively healed areas of tuberculous disease occurring during exertion causes depression and lowering of resistance, which may ultimately result in relapse. As the conscientious tuberculous patient is required to sacrifice his hours of leisure to monotonous and wearisome recuperation in order to maintain the balance between his disease and his resistance, it does not seem unfair to consider that this additional sacrifice warrants a more generous award than that to the pensioner who is able to dispose of his leisure as he pleases.

22. It has been stated (Hume Cronyn) (9) that in the technical use of the term "total disability" under pension laws the severity of the wound or disease is con-

sidered in addition to the inability to earn a living in the ordinary labour market. An important factor in the consideration of *any* degree of disability of every ex-service man who has had tuberculosis is his greatly lessened expectation of life.

Dr. Picken, Assistant Medical Officer of Health, Glasgow, in discussing the importance of this factor in fixing the pension of the tuberculous (13) arrived at some interesting conclusions. He found the average expectation of life of all males of the age of thirty, notified in Glasgow as suffering from pulmonary tuberculosis, to be about 3½ years; of those notified at an early stage with hope of recovery, 6½ years; and of arrested sanatorium dischargees, about 14 years. As the normal expectation of life for age 30 (which he takes as the average age of the pensioner) is not less than 30 years, he contends that since the expectation of life of patients who have secured the best obtainable results of treatment is less than half the normal, the irreducible minimum pension for a tuberculous ex-service man should be 50 or 60 per cent.

A somewhat similar recommendation, but based on the degree of disability, was made to us by a Canadian medical officer much interested in the question of pensions for the tuberculous, who stated it as his belief that "a moderately advanced* case of pulmonary tuberculosis has a permanent disability in the general labour market of about 50 per cent." He pointed out that many pensioners would be greatly aided in shaping their future lives if it was recognized that a moderately advanced case, arrested, would never have his pension reduced below 50 per cent.

The British Inter-Departmental Committee in 1919 also recommended a minimum assessment of 50 per cent for the tuberculous pensioner (12) and in the same year the (American) National Tuberculosis Association passed a resolution favouring a minimum pension of 25 per cent (48).

Although, because of the relaxation of medical supervision involved we are not in sympathy with the suggestion made to the Parliamentary Committee that pensions to the tuberculous should be permanently fixed or that the periods between revisions should be greatly extended, nevertheless, we feel that the fixing of a *minimum* rate for certain classes of cases of *definitely diagnosed* tuberculosis is worthy of careful consideration. If, as is probable, this would result in reducing the number of relapses by a certain, though at present, indeterminable proportion, the gain from a humanitarian standpoint would be great, while the increased cost to the country would be partly offset by the decrease in the cost of treating the patients saved from relapse. It is, of course, unnecessary to point out that the average cost of institutional treatment is considerably in excess of even a 100 per cent disability pension.

It must be kept in mind, however, that in many cases it is difficult to differentiate between tuberculosis and other disease conditions. This difficulty is felt even by the most experienced men working under the best conditions and with the fullest equipment, and indeed exact standards of diagnosis are not very definitely determined at the present time. It can be understood then that during the war, in France, in England, and even in Canada, when large numbers of men had to be handled, when experts in chest diseases were very few, facilities poor, working conditions most unsuitable, when there was little time for any deliberate examination, and when trench and barracks infections and epidemics, such as influenza, added very greatly to the incidence of respiratory disease, many were diagnosed as tuberculous, or suspect tuberculous, in whom tuberculosis was not present at all. Many of these diagnoses made hurriedly and tentatively were revised and corrected, but some patients drifted along from one convalescent camp to another so that months had elapsed from the time of the original diagnosis before a full examination was made. In such cases it was difficult, even if present findings were negative, to state that they had been negative six or twelve months before when the original examination had been made. There are then most probably a good many men in good health and really non-tuberculous in whom a diagnosis of tuberculosis was made hurriedly and

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* *Vide* Appendix VII.

on insufficient grounds, during the war, and not reversed since. The recommendations of this report with regard to minimum pension are not intended to apply to those who are at present in good health and in whom a diagnosis of tuberculosis is extremely doubtful.

23. *Aggravation cases.*—As was anticipated, our attention throughout our tour of sanatoria was very frequently drawn by patients to the hardships involved in the small pensions sometimes awarded to so-called "aggravation cases" owing to the pensionable disability (i.e., that acquired through service) being but a small percentage of the total disability due to the disease. As we understand, however, on the authority of the chairman of the Parliamentary Committee, that "as a result of conferences between those in charge it is believed this difficulty will be largely removed" (9), we need not refer to the matter further than to say that we believe it to be desirable, both in the interests of ultimate economy as well as of humanity and fair play, that in the majority of cases the "pensionable disability" should not be less than the patient's actual disability without regard to the consideration of what percentage was due to service, a problem at best most difficult of equitable solution. In passing it should however be noted that in fixing the percentage of disability, not only of the "aggravation cases" but of every case of pulmonary tuberculosis it would be obviously inequitable to base the estimate of physical inability and therapeutic prohibition on the National Association Classification of "condition on discharge" alone without full allowance for the stage and extent of the lesion. (*Vide* Appendix VI.)

24. A full discussion of the principles underlying pension legislation and the application of the Pension Act to the tuberculous we recognize as being beyond the scope of this report. Indeed did we not feel that the question of pensions for the tuberculous is indissolubly bound up with the question of their after-care, we should perhaps consider that an apology was due for discussing it at all, or at such length, in a report addressed not to the Board of Pension Commissioners but to the Director of Medical Services, of the Department of Soldiers' Civil Re-establishment. In addition to this consideration it is also pointed out that it may perhaps ultimately prove necessary or desirable for the Department to become responsible for some special monetary grant to the ex-sanatorium patient. In the case of those actually 100 per cent disabled this grant might be in lieu of the allowance for helplessness if (in accordance with our implied suggestion above) this allowance could not without the creation of an undesirable precedent be granted when the patient was not actually completely helpless, as in the case of a paralytic.

The application of such a Government grant in the form of a subsidy for the provision of sheltered employment for the ex-sanatorium patient will be considered later in another part of this report.

MEDICAL SUPERVISION

25. "Supervision by a physician skilled in chest work, and with an appreciation of the detail important in the management of the consumptive, is quite as necessary for some months following discharge, as supervision in the sanatorium. Such expert advice should be sought at regular intervals apart from the times that danger may threaten, and should be followed." (Parfitt) (7). By this means early detection and prompt treatment of impending relapse, which is possibly quite unsuspected by the patient, may be averted. The baneful effect of intercurrent disease in re-activating or aggravating a quiescent lesion can also be minimized if the patient has the advantage of a medical supervisor specially qualified to appreciate the condition of the existing tuberculous lesion and the relatively much greater menace that a slight intercurrent illness may hold for the tuberculous than for the non-tuberculous patient.

26. Every comprehensive scheme of after-care or employment that has been attempted or proposed has included competent medical supervision as one of its most

essential features. This is true whether the plan centered around a sub-standard shop, a farm or industrial colony, or a village settlement or whether it was limited to the after-care of the patient in his own home. Both British and American authorities are at one in this regard. (Tinker) (1), (Johnson) (14), (Nichols) (15). As early as April, 1918, the British Government established a "system of visitation" by local tuberculosis authorities for all ex-service men discharged after treatment for tuberculosis (16), and the next month sanctioned the initial expenditure of £20,000 for this purpose (17).

27. We were much impressed at the sanatoria which we visited by the widespread appreciation on the part of the ex-service patients of their need after discharge, of medical supervision by specially qualified physicians. Their anxiety that such supervision should be readily available was frequently expressed at the meetings which we had with them at almost every institution. At many of these meetings a certain proportion of the patients present, were undergoing retreatment as a result of relapse, but the demand that all might, after discharge from the sanatorium, have the privilege of competent re-examination and advice by physicians recognized as tuberculosis "specialists" was not confined alone to these relapsed cases. Unfortunately, there undoubtedly exists a desire on the part of sanatorium dischargees to avoid re-examination by physicians connected with the Board of Pension Commissioners unless they themselves are convinced that their condition has grown worse, as they not unnaturally are anxious to escape any reduction in pension which they fear might result from the finding of a stationary or improved condition. Owing to the limited number of physicians with the necessary special qualifications that there are in Canada outside sanatoria, this feeling on the part of the patients, which cannot be ignored, increases the already existing difficulty of affording the desired medical supervision.

28. We were not surprised to find an emphatically expressed preference on the part of the majority of ex-service patients for the professional opinion of the sanatorium superintendent who had supervised their institutional treatment, with a corresponding lack of respect for that of physicians without sanatorium experience, since civilian patients frequently show a similar attitude. We feel that there is much to be said in support of this preference for the sanatorium physicians' advice, and we fear there is some reason, based on disastrous experience, for the tuberculous patient hesitating to depend on the advice of a physician without sanatorium training. "Most desirable is it that the physician who has long followed the lung changes should still supervise rather than one unfamiliar with the case. Optimism and reassurance are too apt to colour the advice of a new medical attendant, which may encourage rather than restrain the too buoyant." On the other hand, encouragement to effort is equally necessary for the patient too much hospitalized and afraid of himself and here the new physician may advise too great restraint, because the patient's chest condition does not seem to warrant exertion (Parfitt) (7). It is obvious, however, that the demand which is the logical development of the foregoing, that sanatorium superintendents should supplement their already onerous duties by assuming the medical supervision of patients after discharge, is one which cannot be seriously considered, unless there exists no alternative and then only if compensating assistance can be afforded their sanatorium medical and clerical staffs.

29. To consolidate the results of institutional treatment there must be the closest linking up of sanatorium with post-sanatorium medical supervision. The one should be as nearly as possible directly continuous with and immediately follow the other. To be effective, supervision should extend to every ex-service man who has had sanatorium treatment, and should continue for as long as he has any disability whatever, resulting from tuberculosis. On passing from the sanatorium to his home every patient should at once come under competent medical care and this supervision should be unremittingly maintained in the case of pensioners as well as out-patients of the department.

Though this idea is much easier to state than to achieve there is no doubt that it can and should be more nearly realized than it is at present.

The majority of tuberculous ex-service men will require skilled medical advice and supervision for as long as they live. As the proportion actually under treatment in sanatoria continues to diminish the number of those discharged, already considerable, grows greater, but despite this increase in those for whom medical supervision is necessary, the extra sanatorium facilities for its provision remain unfortunately meagre and inadequate.

30. Among ex-service men the best interests of the tuberculous at least demand that as regards medical supervision there should be no real differentiation between pensioners and out-patients. Otherwise the pensioner must depend for supervision and advice on the physicians of the Board of Pension Commissioners. Under present conditions this will probably result in his being seen only when he is summoned to appear at intervals of six months or longer for examination for purposes of pension revision. Such opportunity for supervision is, of course, entirely insufficient.

31. At the Department of Soldiers' Civil Re-establishment's Clinic at the Toronto General Hospital and in Hamilton the patients discharged in "D" Unit area have an excellent opportunity for securing advice and examination at intervals, as frequent as may be necessary, from physicians with the requisite special skill and experience. In Toronto, however, complaint was made that there was frequently delay in the transmission of the records of the patient's condition and sanatorium treatment. As we pointed out in our Interim Report (No. 1), here an improvement of real moment could be effected at once if every sanatorium discharging a patient to the Toronto area, would forward immediately *direct to the clinic* a precis of the patient's case. No matter how efficient departmental channels may be the same degree of expedition cannot be secured if they alone are employed as if a duplicate of the precis that goes from the sanatorium to the Unit Medical Director is sent direct to the Chief of the clinic as well.

32. In every other centre where clinics exist closer co-operation with the sanatoria discharging patients to its area should be encouraged along similar lines. In Vancouver, it is a matter of regret that greater advantage is not taken of the excellent facilities of the Rotary clinic and the experience of its Medical Director. In Montreal the medical officer of the Belmont Hospital, who is also secretary to the Royal Edward Institute, is too hampered by the lack of medical assistance and is required to disperse his energies over too wide a field to give the efficient service of which he is capable if afforded an opportunity for more intensive clinical work.

33. As well as in Vancouver and Montreal, whatever tuberculosis clinic facilities already exist, in Halifax, St. John, Ottawa, Kingston, London, and Winnipeg, should be assisted to develop and become closely linked up with the sanatoria discharging or which have discharged ex-service patients to the areas or districts surrounding these centres.

34. A card index should be compiled of all ex-sanatorium patients, whether pensioners or not, in each Department of Soldiers' Civil Re-establishment Unit area. This should be made as complete as possible and no effort spared as time goes on, to make it more so. Patients thus listed should be regularly visited by the Department of Soldiers' Civil Re-establishment Social Service Nurses, and encouraged to go to the clinic for examination and advice at whatever intervals were considered necessary in each individual case. A patient moving from one Unit area to another, should be transferred to the care of the clinic nearest his new place of residence. In all the areas mentioned there will obviously be some patients who will be too far from a clinic to be able to visit it at all, or at least as frequently as might be desirable, but the development of a clinic system along the lines briefly outlined above should

secure the supervision of a considerable proportion of tuberculous ex-service men in those districts. The clearer appreciation of the situation secured through a thorough listing of all ex-sanatorium patients would probably enable some practical method to be devised of extending the benefits of the clinic to those at a distance.

35. In Saskatchewan and Alberta the situation is somewhat different from that in the East. The scattered population of each of these provinces is served by a single large sanatorium, and there is no predominating city which accommodates the bulk of the urban population as is the case in Manitoba. It is possible therefore that in each of these provinces the sanatorium would prove to be the logical and best centre from which to develop the medical supervision of its ex-patients. If this suggestion is acted upon it would of course, be necessary to furnish an additional medical assistant who, under the direction of the Medical Superintendent would systematically follow up patients after discharge and examine them first at frequent, and later as they become adjusted to their environment, at less frequent intervals. By thus carrying on the supervision and continuing to make available the advice on which the patients have come to rely in the sanatorium he would be a factor of real importance in consolidating the results of sanatorium treatment. The confidence inspired in the patients by his association with the sanatorium and his collaboration with its Medical Superintendent would be of material assistance, while the ease of access to all the patients' history, examination, and progress notes, as well as X-ray plates at the institution, would make it possible to continue to supervise towards recovery with a minimum of interruption. Additional clerical assistance would of course also be required to maintain the "follow-up" records.

36. The difficulty of extending medical supervision beyond the period of sanatorium treatment proper, is no doubt aggravated by the very limited number of physicians with the necessary skill and experience who are available for the purpose. The sanatoria themselves find difficulty in maintaining adequate medical staffs. In this connection it is recalled that one of the members of this board, when before the Parliamentary Committee last May, was closely questioned with regard to the desirability of the Government lending practical assistance in "training up a body of experts"—"to specialize on tuberculosis" for the benefit of "both soldiers and civilians" (18). For some time the Manitoba Sanatorium, in co-operation with the Winnipeg General Hospital and Manitoba Medical College, has been giving a course of training to internes and medical students which has already produced excellent results in increasing the number of physicians with a practical knowledge of sanatorium methods. The Saskatchewan Sanatorium is also instituting a similar course while other sanatoria in Canada have from time to time given less completely co-ordinated instruction to medical students and internes. Government assistance to institute or develop courses of instruction in approved sanatoria, we are convinced, would greatly benefit the whole anti-tuberculosis campaign and would also aid in the establishment of a system of intensive medical supervision of sanatorium dischargees.

It is significant to note that the urgent need for special instruction in tuberculosis has recently been recognized by the United States Public Health Service. All medical men now entering this service, in the middle Western States at least, are required to undergo an intensive training in the diagnosis and treatment—especially the diagnosis—of tuberculosis. These courses are conducted by an expert and over a central district are held in connection with the sanatoria, first of one and then of another State. It is interesting to learn that the success that has been attained in the instruction of medical students and internes in Canadian sanatoria and its value to the Anti-Tuberculosis Campaign, have been important factors in determining this new departure by the United States authorities.

VISITING NURSING

37. Medical supervision and "follow-up" work for its most successful conduct, also requires the employment of the social service or visiting tuberculosis nurse. Lyman (11), whose opinion is founded on the experience of actual results obtained by this practice at the Gaylord Farm Sanatorium in Connecticut, lays great emphasis on the importance of closely linking up the patient's sanatorium and post-sanatorium treatment through the medium of a visiting nurse, well equipped by training and character and who has had an opportunity of gaining the confidence of the family, as well as of the patient, while he is still in the institution. The permanent value of sanatorium treatment is often said to vary directly with the amount of education the patient has acquired in regulating the details of his daily life. Since however, during the same period, the other members of his family have had little or no opportunity of profiting by this education, as a result, on his return home he often finds it difficult or impossible to secure from them the co-operation necessary to enable him to "carry on" with the more essential features of sanatorium life, on which so largely depends his future welfare. It is here that the visiting nurse, who has already gained the confidence of both the patient and his family, can greatly assist him, by showing him how best to adapt his home surroundings to his needs, by strengthening his determination to govern his life by the principles of health already learned and by convincing the other members of the family of both the need and the best methods of co-operation. Incidentally, the duties of this visiting nurse include that of ensuring the reduction of contact infection to a minimum, and also of supervising the other members of the family "especially the children who are to be treated as contacts" (Elliott) (19).

38. In several of the unit areas visited a real effort was evidently being made to follow up the tuberculous patients by visiting Department of Soldiers' Civil Re-establishment nurses. This was most apparent in "D," "H" and "J" unit areas.

As at present organized the social service nursing staff would probably be found inadequate to follow up and visit ex-sanatorium patients as often as desirable when these include all tuberculous pensioners as well as out-patients. In "D" Unit is concentrated nearly one half of the Department of Soldiers' Civil Re-establishment Social Service nursing staff (15 out of 35). These nurses are, of course, required to visit patients with other disabilities as well as those having tuberculosis—the visits to the latter averaging about 13 per cent of the total made. If the number of ex-sanatorium patients now residing in this area is equal to that treated there (and this is more than probable) the present nursing staff would only be able at the same rate to visit each patient about once every ten months. This, of course, is not nearly frequently enough. In other areas where patients may be fewer, this is offset by the greater distances to be covered.

The value and importance of efficient tuberculosis visiting nursing in "follow-up" work in connection with sanatoria or clinics can scarcely be over-emphasized. It requires a good personality and a special training for the best results. Whenever those with this special experience are not available, it would be necessary to carefully select graduate nurses possessing a suitable personality (if possible former C.A.M.C. Nursing Sisters), and give them a thorough training in tuberculosis work. They should be thoroughly familiar with sanatorium life and care, as well as the application of the principles of sanatorium treatment to the home. To detail certain specially trained and qualified nurses to visit the tuberculous only would, of course, involve overlapping in the areas to be visited, but this apparent lack of economy would be compensated, partly at least, by the increased value of the results.

39. The forms employed by this service in recording visits to the tuberculous should be standardized and carefully planned so as to furnish the maximum amount of useful data to the supervising medical officers, with whom the nurses should work

in the closest co-operation. In addition to clinical details there should be included information regarding home life and environment, the conditions, character and amount of any work engaged in by the patient, and the nurse's remarks on any local possibilities for suitable employment which she may have observed.

40. The development of clinic facilities and social service visiting nursing necessary adequately to "follow-up" and supervise all ex-service men who have had sanatorium treatment will undoubtedly involve increased personnel and expenditure but otherwise it is impossible to see how this unavoidable responsibility can be adequately discharged.

HOUSING CONDITIONS

41. Good housing conditions for the ex-sanatorium patient and his family, though an essential part of many of the colony and other schemes of sheltered employment which will be discussed later in this report, deserve consideration by themselves. This is desirable not only to emphasize their importance but also because steps to provide them or improve those existing may be necessary in cases where colony or settlement schemes would be inapplicable or refused.

The conditions under which the ex-patient should spend about two-thirds of his time are manifestly of the highest importance. Some even claim that it is more important to secure good housing than good working conditions (Veiller) (20). However that may be, the ill effects of unsuitable working conditions where these cannot themselves be obviated for any reason can sometimes be partially offset by good living conditions. It is in such instances that sleeping porches are especially valuable. On the other hand, no matter how ideal may be the conditions under which the ex-patient works, "it is useless to allow a man to return to a two-roomed tenement and tell him to "carry on" as he did at the sanatorium. He simply cannot do it" (8).

42. In the case of a married man or a single man living at home, it may be necessary to direct and assist him to adapt, or possibly supplement existing accommodation (for example, by providing a sleeping porch), or to secure new quarters on account of the unsuitability of the old, either owing to unhygienic conditions in the house or neighbourhood, or because of its distance from the occupant's place of employment. Anyone who has ever supervised the lives of the tuberculous in their homes, especially of those in attendance at a free clinic, will bear testimony to the need of such direction and assistance. It is noteworthy that at several sanatoria patients who had themselves felt this need, particularly requested that a loan might be forthcoming from the Government to be used for the purposes above outlined. If a fund for this purpose were available its dispersal would necessarily have to be carefully controlled, no expenditure being approved except on the specific recommendation of the supervising physician to meet an individual therapeutic need.

A precedent for such Government expenditure has already been created by the British Ministry of Pensions, which two years ago arranged that the cost of removal of ex-patients living in unhealthy surroundings would be paid (16), while it has more recently been advocated that after-care funds might pay the difference in rent between a poor and a good house (10).

43. For men not living at home and who have to depend upon the variable but generally unsuitable environment afforded by boarding or rooming houses the problem is frequently not only more urgent but also more difficult of solution. It is felt that these men, in the larger cities at least, where their numbers would warrant its establishment would welcome the opportunity to use some sort of hostel, furnishing at a reasonable price, comfortable hygienic living quarters with well-planned sleeping porches. Care would have to be taken to avoid as far as possible the suggestion of establishing a new type of institutional control because of the not unnatural

desire on the part of ex-patients (and perhaps particularly of ex-soldiers) to get away from the institutional life. The use of such a hostel, run on rational lines, we feel would soon come to be recognized by those for whom it was intended as a very real privilege and this would stimulate their necessary co-operation.*

Such a hostel was actually operated for some years in Winnipeg, with quite marked success. It was known as the Trudeau Home and was established under the auspices of the Women's Anti-Tuberculosis Society. It was in charge of the Winnipeg tuberculosis nurse, who was most excellently qualified, both by experience and personality, for her duties, and this no doubt contributed largely to the success of the undertaking. It was a home to a number of men handicapped with tuberculosis, who were beginning work after a period of sanatorium treatment, and served this purpose admirably.

EMPLOYMENT

44. From a therapeutic, economic, and moral standpoint, the situation of every tuberculous ex-service man who has satisfactorily completed a course of sanatorium treatment and who is neither totally disabled nor in need of absolute rest demands that he engage in some suitable form of employment.

The therapeutic gain of developing to the highest possible pitch the restoration of functional ability which sanatorium treatment has commenced and the economic advantage of utilizing the consumptive's limited latent energy in employment useful to the state and remunerative to the individual, are supplemented by the "extraordinary moral value" (10) of the work itself. "The cultivation of independence in the individual is more essential than a mere money payment" (21).

45. Under present conditions practically every tuberculous ex-service man is in receipt of a 100 per cent disability pension, for a few months at least after discharge from a sanatorium, whatever his physical condition. An impression seems to have gone abroad that during this period of full pension no work may be attempted. This is unfortunate and every effort should be made to dispel it in the case of those with less than 100 per cent actual disability. "A man living on pension alone is perforce not only an unproductive but a wholly wasteful member of the community" (21). Furthermore, if his actual physical disability is less than 100 per cent he thus loses, by unnecessary idleness, the very advantage which this period of full pension was intended to give. This primarily was to enable him to continue the redevelopment of his functional ability gradually and without undue strain, within the limits defined by his physician. Thus, when the time comes for the revision of his pension and the new award is based on his disability* determined by the loss or lessening of his normal ability in the ordinary labour market, due to therapeutic prohibition* with or without any actual inability,* he may have been able to re-establish himself at least partially in his old occupation or have taken steps to supplement his pension by some other and suitable employment.

46. As it is fairly obvious that the consumptive ex-patient is not, as a rule, fit for every sort of work under any set of conditions, the question naturally arises what kinds of employment are and what are not suitable. In answering this in the past, unfortunately too often "authorities, lay and medical, seemed to be satisfied to be guided by preconceived ideas rather than by more newly established principles. Specialized and expert opinion is just as necessary regarding after-employment as with regard to treatment. After-employment is really a post-graduate course following treatment. He who can direct wisely regarding *rest* and *exercise,* can treat tuberculosis. He who cannot do this can only maltreat tuberculosis, and only he

* The privileges of such a hostel should be restricted to ex-sanatorium or clinic patients physically fit for employment either in the open labour market or under specially sheltered conditions. It would probably be a useful adjunct to the sub-standard shop.

* *Vide* Appendix VI.

who can treat tuberculosis with utmost skill has any right to even try to direct the after-employment of the tuberculous" (Stewart) (22).

Though many attempts have been made to furnish lists of suitable and unsuitable employments, it must be recognized that the problem is an individual one and that rigid and uniform rules are impossible of general application. "It is a truism that actions are not always good or bad in themselves, but in their relations; sin is conduct out of place. So considering all different circumstances, it is impossible to divide occupations into two lists, good and bad. What is bad for one tuberculous man, in view of his condition and many sets of circumstances, may be good for another, differently placed and in a different physical condition" (22). "While this is the case and definite white and black lists are impossible," it should be pointed out that "popular ideas are especially wrong" about farming and gardening as suitable occupations for the consumptive. Both the living and working conditions on the average farm are eminently unsuitable for the ex-sanatorium patient unless he is an experienced farmer, whose physical condition is particularly good and who, in the position of owner with some capital, can select his own duties or develop one of the less laborious lines of farming.

Market gardening which "has been looked on as an easy, suitable and even poetic form of farming" is perhaps even more undesirable as a means of livelihood. "It is something like farming by hand without machinery" (22).

47. Although impossible to list all occupations as good or bad, it may be of service to discuss briefly and attempt to establish certain principles with regard to the character and conditions of the employment, as well as the physical limitations of the patient, which determine its suitability. It has even been said that "every occupation is open to the tuberculous" (23), provided certain undesirable conditions are altered. While theoretically this may be true the necessary alteration is frequently impracticable.

Old Occupation.—If at all possible it is better for a man to return to his old occupation or some modification of it. His old job is easy to his hand like an old glove; he can measure his capacity and avoid over-exertion in it better than in another; and in it he avoids the worry and uncertainty of learning new work. A workman's trade is his capital." If he gives it up "to learn a different one the loss to the individual and to the state is the same kind of loss as the burning down of a factory. It is the destruction of an asset personal and national" (22).

Not Too Heavy.—Work to be suitable must not be too heavy physically. "Hard labour kills the tuberculous" (22). It is here that the educated and the skilled have the advantage of the unskilled manual labourer.

Not Necessarily Outdoor.—For the tuberculous, indoor jobs, because they are so much better paid on the average and because they are lighter physically, are (apart from their "indoorness") generally to be preferred to outdoor occupations, especially as the latter frequently entail considerable exposure to inclement weather. "Indoor work and outdoor sleeping should be as suitable a routine as outdoor work and indoor sleeping,even if fresh air were the only essential, which it is not" (22).

Lyman (11) showed that amongst his sanatorium dischargees factory workers held their condition distinctly better, and office workers far better than did outdoor workers. Other observers have noted similar results (28).

Good Pay.—Probably in securing these results better wages were also an important factor. In order to make good living conditions possible the pay is sufficiently important to justify the sacrifice of less vital requirements.

Home.—Any occupation is unsuitable which involves the tuberculous patient frequently exchanging the advantages and comforts of his own home for the less suitable surroundings of any chance place of temporary abode.

Responsibility and Competition Undesirable—Permanency.—Freedom from undue responsibility and keen competition, either of which is apt to weigh heavily on the consumptive, is desirable, and since his condition of ill-health is to some degree permanent his employment should not be of a temporary or unstable character.

Dust, Etc., Light, Ventilation, Sanitation.—The necessity of avoiding exposure to iritating dust and to poisons, gases and fumes (31), which might lower vitality and resistance, is so obvious as scarcely to require emphasis. So, too, is the need of very adequate light and ventilation with the provision of the usual sanitary arrangements necesary for an hygienic environment.

Combination Cases.—Woodhead and Varrier-Jones (24) point out that "as a rule it is not the *trade* that is the stumbling block; *it is the conditions under which that trade is carried on.*" They go on to show that these adverse conditions include much more than inadequate ventilation and lighting, for the modern commercial factory where these are adequate is still unsuitable for the consumptive. It is rather many causes acting together which make for disastrous results. One of the chief of these is "pace."

Speeding Up.—"It is the pace that kills" the consumptive, "whether it be the speeding up of work in the factory or the rate of excitement in amusement."

Short Hours and Rest Periods.—At least during the earlier portion of his period of "industrial convalesence" (25) the tuberculous patient requires employment which will give him short hours with adequate rest periods. Although later strength and endurance will likely increase if the permanent earning capacity be taken as the only criterion of "cure," "the majority with well-developed disease are only 50 per cent men" (26).

Limitation of Value as Employee.—The tendency of the disease to relapse, even if the occupation is suitable, greatly limits the patient's value as an employee as he may at any time have to lie off when warned by symptoms of impending disaster.*

48. It is therefore all too manifest how very rarely indeed is the opportunity for suitable employment afforded the average type of ex-sanatorium patient, if, to the conditions existing in the ordinary labour and industrial markets, the complex of principles just indicated be applied as a standard. As a rule he is hopelessly handicapped and not infrequently permanently so. "The tuberculous veterans" are probably more or less mutilated for life, whereas a soldier with partial destruction of limbs can be re-habilitated by intensive training in some fit occupation (27).

Part time jobs are few and far between and are generally reserved for old employees. Business men cannot be expected to take into their factories, shops, or offices, new employees who are unable to do a full day's work and who are liable to have to lie off from time to time. As the war recedes farther into the past those who from a patriotic motive made exceptions in favour of ex-soldiers are daily becoming less numerous. The suggestion that two men, each working half a day take over one fit man's job is found in practice to be unworkable. Even if employers could be found who would take on the average tuberculous patient with all his limitations of service, they would not likely long retain him. The concessions as to hours, etc., which would have to be made would soon create a great measure of discontent amongst fellow employees, especially as the disability of the ex-patient might be far from evident to them. Indeed it has been found that actually the great majority of employers would far rather be called upon for a direct financial contribution than be asked to find employment for the substandard tuberculous man.

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* NOTE.—In an appendix to this report (Appendix II) will be found an excellent set of occupational health standards, adapted to the needs of the tuberculous by Dr. H. A. Pattison, Field Secretary of the National Tuberculosis Association, who has been detailed for duty with the Federal Board for Vocational Education at Washington.

49. Even the 75 per cent efficient physically are practically 100 per cent disabled as far as opportunities for suitable employment under ordinary conditions are concerned. It is seldom that a full day's work is not demanded from an employee if he is to expect to retain a position permanently.

50. *Phthisiophobia.*—Phthisiophobia on the part of employers and fellow-workers is also undoubtedly an important factor in limiting opportunities for employment. It is true that certain investigations that have been made would suggest that this is negligible. In answer to a question put to his ex-patients with regard to evidence of phthisiophobia on the part of "neighbours or fellow employees" Lyman (11), from 633 received 590 negative and only 43 affirmative replies, while many of the latter were based on instances of trifling character. The inquiry as worded did not, however, include employers. Moreover, this investigation was made in Connecticut where an intensive anti-tuberculosis campaign carried on for many years had enlightened the public. In health resorts like Saranac Lake, it has been found also that "education through observation and experience has dispelled phthisiophobia" (29).

Nevertheless a very appreciable degree of prejudice undoubtedly exists in the majority of communities (30) and many instances of its pernicious effect could be cited in Canada. This prejudice has a very definite bearing on the consumptives' chances of getting employment.

While everything goes to show that the hygienic precautions taught the patient in the sanatorium when consistently practised are thoroughly effective in controlling the distribution of tubercle bacilli, the exhibition of the very measures adopted for the protection of the public stigmatizes the conscientious patient. This stigma acts as such a barrier to his progress, that he is finally forced to abandon all precautions since the treatment accorded him in this regard is such a contrast to that experienced by the careless consumptive who takes no precautions which advertise his condition.

51. Owing to the very few opportunities for any employment, there appears to be also some danger of the unscrupulous endeavouring to exploit the tuberculous pensioner by offering to supplement his government compensation by pay quite inadequate to the work demanded.

52. It was the realization of the great paucity of opportunity for suitable occupation in which the tuberculous ex-patient could earn a reasonable livelihood without unduly jeopardizing his unstable health that justified the conclusion of Varrier-Jones that "a consumptive with moderate disease is as utterly incapable of earning a living under present economic conditions as an epileptic." Apparent exceptions to this sweeping statement will of course at once occur to everyone. When these are carefully analyzed, however, it will almost invariably be found that either the character of the work or the conditions under which it is performed have been materially modified by a considerate employer, frequently a relative. Occasionally also a high degree of skill may mitigate the handicap of the patient's physical limitations.

53. The fact remains, however, that for the vast majority of consumptives, philanthropic employers cannot be found who will furnish suitable occupation sheltered from adverse conditions and adjusted to the patients' limitations, with remuneration in excess of service.

54. For most ex-sanatorium patients the only hope of obtaining such sheltered employment lies in its provision by some agency which can afford to act as a sympathetic employer by establishing suitable occupations under desirable conditions and subsidizing substandard patient labour.

55. Before advocating such provision on a comprehensive scale it should be considered whether the financial outlay involved and the labour of overcoming the many difficulties to be met can be justified.

On strictly *economic* grounds, apart from other considérations, it is difficult to see how any form of sheltered employment which is open to all kinds of ex-sanatorium

patients, except the totally disabled, can be expected to justify itself by paying its way. The evidence available from all experiments as yet undertaken is too limited both as regards numbers of patients and length of time to draw any incontrovertible conclusions. It is true that amongst those with practical experience there are some who can produce evidence to show that they have succeeded in making certain schemes of sheltered employment self-supporting. However, while preserving an open mind towards future economic possibilities, from a strictly financial standpoint the only safe and conservative attitude to assume at present, and the one least likely to result in disappointment, is that expressed by Varrier-Jones one of the most ardent and experienced advocates of sheltered employment of the colony type, who urges "In any case let us get rid of the fallacy that tuberculous labour can be made to pay" (17). Although at his tuberculosis Colony "few patients fell below a 25 per cent standard" on beginning carpentry and joinery work, and this percentage increased monthly on "repetition work," ultimately occasionally reaching 50 and even 75 per cent, in his experience he has found that work to be turned out at a competitive price requires a subsidy of at least 10 to 15 per cent in order to pay patients the wages that are desirable and necessary. It would however, appear to be wiser, both from a moral and economic point of view, by such a subsidy to afford a patient with a partial disability an opportunity of thus supplementing his pension than to increase by an unearned monetary grant an award fairly based on his actual physical disability. It is probable also that a few exceptional patients could, by means of technical training in sheltered employment and development of functional ability under careful medical supervision, finally achieve, possibly only after some years, a degree of competitive ability which would permit of their re-entry into the normal commercial, industrial or labour world (23). As it would deter men from taking advantage of the opportunity it would not seem a sound policy to make any deduction from pension because of increased earning capacity in sheltered employment. (*Vide* Sec. 25, S.S. 4, Pension Act.).

56. Belief in the therapeutic value of adequate after-care in which sheltered employment plays a part is indicated by the claim that it has been found that by its means relapses after discharge of sanatorium patients in New York City can be reduced 50 to 80 per cent (25).

57. The majority of the British authorities seem to justfy the cost of providing sheltered employment "as money expended for the protection from infection enjoyed by the community" (17). This, of course, applies particularly to the colony or settlement type, where the patient and his family are almost entirely removed from contact with outsiders. "The man with active disease, albeit somewhat retarded by treatment at a sanatorium . . is the central factor in the problem of tuberculosis, a far more important factor than the advanced case—the bed-ridden case—when although the danger of direct and concentrated infection is greater, it is so circumscribed that it is limited to a small family circle." "Humane and voluntary segregation" is urged "by making it so attractive that few consumptives will face the difficulties and dangers of open competition" (17). While the restriction of the opportunity for such "voluntary segregration" to ex-service men only (who constitute a relatively small proportion of the sputum-positive tuberculous population of Canada) would obviously limit its beneficial effect in preventing the spread of infection, it should not be forgotten that pulmonary tuberculosis stands in a relation to public health different from that of any other service disability.

This relationship implies a responsibility on the part of those supervising the tuberculous pensioner, which cannot be ignored.

58. To sum up our conclusions based on the consideration of all available evidence, we feel that on therapeutic and moral as well as indirectly on economic grounds, there is a real justification for including sheltered employment in a well balanced system of after-care for ex-service tuberculous patients.

59. *Agency.*—It is obvious that if the opportunity for sheltered employment is to be afforded the ex-service man, it will have to be furnished him either by the Government, by some one of a number of philanthropic organizations interested in his welfare (such as the Red Cross, Young Men's Christian Association, etc.), or by the combined efforts of two or more of these agencies.

Many arguments have been advanced in favour of other than a governmental agency being responsible for furnishing sheltered employment to ex-sanatorium patients. In discussing this point in connection with a proposed industrial and agricultural community for the tuberculous in the United States Pattison says (32): "The experiment (let us frankly term it an experiment) must be very flexible and it is certain that direct governmental control could not be elastic enough or responsive enough to the new conditions constantly arising."

A similar point of view was expressed last year at the annual meeting of the National Tuberculosis Association (33) to the effect that "private organizations are unhampered by the limitations of statutory authority or by lack of it. They are unfettered by civil service rules and they are unencumbered by official regulations as to spending money."

It has been suggested that much of the responsibilty for the care of tuberculous ex-service men might legitimately be placed on local anti-tuberuculosis and other philanthropic associations on the ground that many of these patients would have broken down eventually had they never joined the service since sound statistical evidence can be adduced to show that the tuberculosis incidence amongst them is only approximately twice that of civilian males of the same age period. A precedent for Red Cross funds being used for this purpose can be instanced in England at the Kelling Sanatorium Colony.

Although it is true that there are advantages in a flexible non-governmental organization conducting a sociological experiment nevertheless the State has already very properly acknowledged its responsibility for the treatment and training of those rendered unfit on active service and if special provision must also be made for their employment this too would seem primarily to be in the same category. At any rate the State cannot afford to wait for other agencies to take the initiative since by so doing there is danger of delay in the provision of measures urgently demanded by the real needs of a large group of disabled ex-service men.

It would appear, therefore, that the State must initiate and to a considerable extent finance whatever measures are approved for the establishment of sheltered employment as well as for other details of after-care.

It is greatly to be hoped, however, that (in the words of the chairman of the Parliamentary Committee) (9), "the Federal authorities charged with the care of tuberculous soldiers will be able to enlist the active co-operation of all other agencies in Canada engaged in the same task." If arrangements could be made, conditional upon the sympathy and co-operation, both executive and financial, of the Red Cross and various provincial and other anti-tuberculosis associations affected, whereby the opportunities for sheltered employment could be extended to civilian patients, it is felt that in many ways the ex-service men, as well as the anti-tuberculosis movement in general would greatly benefit.

It is, of course, desirable that the agency which institutes and develops whatever forms of sheltered employment may be decided upon in Canada, should study carefully at first hand the methods employed and the results being obtained in other countries, particularly in Great Britain, but it is obvious that it would not be justifiable to postpone action until definite conclusions could be drawn regarding ultimate results being obtained elsewhere. Furthermore, conditions in Canada are so different from those in Britain (as for instance the size of the country in comparison with the numbers of the tuberculous ex-soldiers to be served, scattered as they are from coast to coast; the climate too with its effect on living and working conditions; and the difference between the social and economic standards prevailing) that

experiments must be conducted in this country without delay in order that the lesson learned may later be applied more broadly both in the interests of those to be served and of the pocket of the public.

60. *Men's attitude.*—The attitude of ex-service men themselves towards the proposal to afford them opportunities of sheltered employment is of course of the greatest moment. No scheme which did not appeal to the considered opinion of a reasonable proportion of them at least, need be very sanguine of ultimate success. Without analyzing in detail the opinions we gathered from patients while visiting the various sanatoria throughout Canada, the first impression would suggest a decided lack of enthusiasm for the expenditure of government money for the purpose of equipping and operating any workshop or colony for tuberculous ex-service men. Many seemed to feel strongly that any money available for this purpose might much better be utilized to increase pensions. This was particularly evident before the new scale was announced. There was apparent too, particularly on the part of the unmarried, considerable reluctance about committing themselves to take advantage of such opportunities should they be made possible. In part this feeling was probably due to resentment towards any idea of segregation in a colony cut off from the world.

It is noteworthy, however, that in a number of the larger institutions, especially some of those near the bigger centres, where apparently the matter had been given fuller and longer consideration, and where perhaps more had practically experienced what the handicap of tuberculosis means in the industrial world, there were considerable numbers who expressed themselves as very ready to appreciate, and to co-operate in any suitable schemes which might be launched. It was gratifying to note that the development of this more favourable attitude had partly resulted from the stimulus of our meetings with the men during the progress of our inspection from the Maritime Provinces to British Columbia first, and then as we worked our way eastward. The patients at several sanatoria have in fact since forwarded to us drafts of schemes they are prepared to support, which give evidence of very considerable thought and study. In one institution not less than thirty-five married men with families have already pledged themselves definitely to co-operate in a community scheme and to invest their available capital in it. These suggestions will be referred to in more detail later but are now mentioned in support of our opinion that if carefully planned measures for affording sheltered employment are instituted on a reasonable scale, but in an experimental way at strategic points throughout Canada. there will be no lack of ex-patients ready to take advantage of the opportunities offered. A similar conclusion was reached in Great Britain last year by their Inter-Departmental Committee from the evidence of English ex-service men which was also of a conflicting nature (12). In short, the men require to be led and will follow if practical measures are devised.

61. Although obviously occupational therapy and vocational training in sanatoria are not included within the scope of this report, we feel that we should strongly emphasize the desirability of the very closest possible co-relation between these and the occupation to be followed after discharge in order that there may be no break between treatment and training in the sanatorium and care and employment after discharge.

62. It is necessary that the various types of schemes for providing sheltered employment which have hitherto been advocated and put into practice (as well as some which have as yet had little or no practical application) should be considered before any conclusions can be reached upon which recommendations applicable to the specific needs of the Canadian tuberculous ex-service man can be made. These types we propose to discuss individually as listed below, at the same time attempting to clear up the confusion which has arisen out of the loose and inaccurate application of the same descriptive term to more than one kind of sheltered employment.

63. TYPES OF SHELTERED EMPLOYMENT

(I) Individual assistance. (Sections 64 to 67, inclusive.)

(II) Reservation of certain government appointments. (Section 68.)

(III) Substandard workshops or factories. (Sections 69 to 75, inclusive.)

(IV) Colonies. (Sections 76 to 89, inclusive.)

- (*a*) Agricultural,
- (*b*) Industrial,
- (*c*) Combined.

(V) Permanent village or community settlements. (Sections 90 to 93, inclusive.)

(VI) Miscellaneous plans and suggestions. (Sections 94 to 107, inclusive.)

(I) *Individual Assistance*

64. The patient who is fortunate enough to have secured the most favourable results through being an early type of case which has made the maximum response to treatment, and who is not an unskilled labourer, should receive every assistance towards re-establishing himself in his old position unless his occupation should be judged to be particularly unsuitable or conducted under unfavourable conditions. If this is found to be the case he should be assisted to secure some modification of his original work, which would not be unsuitable, or some new post where conditions prevailing would be satisfactory.

65. All opportunities for suitable work made possible through the sympathy of employers, few though these may be, should be sought out and especially listed with both Provincial and Federal Government employment bureaus and in Department of Soldiers' Civil Re-establishment bureaus where they exist. They would thus be readily available for patients on discharge from sanatoria when their condition permits and where there are no special facilities available for sheltered employment or if, for any good reason, they are unwilling to take advantage of them.

66. As the result of Barne's experience of the favourable effect of sanatorium employment in reducing relapses, his suggestion of a central employment bureau for listing all vacancies available amongst sanatorium personnel throughout the country might well be considered. It must not be forgotten, however, that though sanatorium posts have some peculiar advantages for ex-patients, all the conditions of sheltered employment cannot prevail without greatly increasing the pay roll or hampering the efficiency of institutional operation.

67. Financial assistance, either in the form of a loan or grant, might occasionally be justified to enable some ex-patient to re-establish himself in a small business or to develop a small suburban holding in order to supplement his pension from the proceeds, provided careful investigation demonstrated that ample previous experience as well as the patient's physical condition and prospects justified the investment. Such individual assistance might be facilitated by certain amendments to the Soldier Settlement Act, 1919, which have been suggested. These have reference to loans on plots of from one acre upwards, near urban centres, and to assistance in training men not wholly fit, with perhaps some modifications in the regulations or the application of the Act.

(II) *Reservation of certain Government Appointments*

68. It has been suggested by certain patients, with the approval of a member of the Parliamentary Committee (34), that we be requested to express an opinion

with regard to what government appointments might be suitable for reservation for tuberculous ex-service men. The same difficulties exist here which have already been pointed out as preventing the division of other occupations into unqualified lists of good and bad. These difficulties, and the civil service requirements, as well as the phthisiophobia, however unwarranted, which undoubtedly exists, render any wholesale plan of reservation, in our opinion, impracticable. This does not of course in the least suggest that we feel that tuberculous ex-service men should be excluded from civil service or any other government appointments. On the contrary, whenever as individuals they are qualified and physically fit to undertake, without undue risk to health, the duties of any posts available, every encouragement and assistance might well be given. Especially true is this in the case of former civil servants whose physical condition justifies re-establishment. Necessary steps should be taken also to prevent the possibility of ignorant phthisiophobia interfering with the appointment of conscientious consumptives to government posts or preventing those in government employ observing necessary sanitary precautions.

(III) *Substandard Workshops or Factories*

69. By these are meant workshops or factories where ex-sanatorium patients are afforded opportunities for sheltered employment (including all the term implies as regards work, conditions, and intensive medical supervision) in urban centres with no living quarters in connection, but within easy access of the patients' homes.

70. On this continent, perhaps the best illustration of the very few shops of this type in existence is the Altro workshop in New York city. A brief description of it and its accomplishments can best serve to suggest the most striking features of the type. In England a similar undertaking has been suggested at Wimbledon (1). The "Altro" is a garment shop organized and conducted by the New York Committee for the care of the Jewish tuberculous. Its establishment was one of the results of an investigation by a committee representing a number of Hebrew associations interested in the tuberculous of their own race, which, they claim, disclosed that "52 per cent of the work done at the Bedford Sanatorium was wasted in less than a year's time" (35), and that the "industrial conditions into which the patients were forced by economic needs" on discharge from the sanatorium, were a most important factor in this waste through relapses.

The history of this shop discloses the development of a dubious experiment into a most successful enterprise not only in its therapeutic but also its purely financial aspect, within the first two years of its existence. Positive and negative sputum cases work in separate departments, the output of the former being confined to articles which can be sterilized. This is a striking illustration of phthisiophobia, on the part not only of the public but also of the patients without bacilli, who are apprehensive of association with the positive cases.

The factory is run on business lines, contracts being tendered for in the usual manner. The work loft is sanitary and well ventilated though at present rather crowded. An outdoor rest room with reclining chairs is provided, which patients use during their spare time. Food is furnished at cost to obviate patients having to go out for their mid-day meal and thus dissipate energy unnecessarily. Medical supervision is strict, but not obtrusive. The patients go to the physician in charge for regular examinations, and the nurse on duty appears as a forewoman, not in uniform. The amount of work allowed, however, is very carefully prescribed and adherence to the prescription insisted upon, both as regards time and pace. The factory, started in 1915, has not only been self-sustaining since 1917, but by 1918 the assets of the company equalled the money invested, including the first two years deficit. The relief money saved, though not included, might quite legitimately be counted as additional dividends. Individual employees have apparently in most cases made satisfactory progress physically and the weekly earnings of many exceed what they were

able to make before their illness, though a considerable proportion have had to be taught the trade since their sanatorium treatment.

In order to maintain a proper incentive a method of adjustment between earnings and charitable relief was arranged whereby for every increase of two dollars earned only one dollar being disbursed for relief was withdrawn. A most vital factor in the success of this remarkable shop was the business ability, tact, perseverance and special experience in social work of the Executive Secretary in charge. In such an undertaking this personal factor must always be of paramount importance. It must not be forgotten either that this shop probably owes part of its success to its location in the largest city on this continent where a great number of ex-patients are always available for selection.

71. This year the recently incorporated "Reco" Manufacturing Company opened a workshop in New York city for tuberculous ex-service men and others. It is partly subsidized by the National Tuberculosis Association and receives some assistance from the Federal Board for Vocational Education. The bulk of the initial cost and overhead charges is borne by the New York Tuberculosis Association. After careful investigation the trades selected as most suitable were watch repairing, jewelry manufacturing and cabinet making.

72. The Wimbledon shops are intended specifically for discharged tuberculous sailors and soldiers. They are to consist of two parts—one for training and one for permanent employment. Many basic features will resemble those of the "Altro" shop. The occupations, however, will include carpentry, cabinet making and basket making. In a community with a population of 70,000 to 80,000 it is estimated that each of the two departments should have facilities for from twenty to twenty-five men each. Trade union wages are to be paid for time worked, the man's pension compensating for part time employment. Although it is expected that output of work will pay wages, the shop will be run at a loss which the Government has been asked to cover by a grant.

73. Some special advantages are claimed for the substandard shop as compared with other types of sheltered employment such as the Colony plan. It is much less costly than the Colony, is more immediate and will not interfere with any other scheme. Neither does it involve the removal of men from their homes, an important point where a large proportion are probably city bred, are reluctant to give up city life, are anxious to get back into "the real world" and would probably be discontented elsewhere. In the larger cities also prejudices are not apt to be so marked, while raw materials, transportation, and markets are more readily available, (1), (25), (35).

74. There are many features of the substandard shop which appear to offer reasonable prospects of success in the attempt to afford to tuberculous ex-service men opportunities for sheltered employment. If employment is to be included in a comprehensive scheme of after-care of Canadian ex-soldiers, as we believe it ought to be, such a shop should be established in any city where the result of a survey of ex-sanatorium patients appears to warrant it.

75. *Remuneration.*—The question of the best method of remuneration is a difficult one. Pension must be maintained or patients will not consent to enter the shop. The best available experience would suggest that pay should be for work accomplished on an hourly basis in strict accordance with the period prescribed. This would prevent "speeding up." A graded scale of pay based also on experience and skill acquired would afford a desirable incentive. Local conditions would somewhat affect the industries selected.

(IV) *Colonies*

76. A multiplicity of ideas seems to exist with regard to the application of the term "Colony" and to the scope of this type of sheltered employment. Formerly the term, true to its derivation, implied that the work undertaken was purely agricultural but later it has been used to include industrial activities as well. In Britain a Tuberculosis Colony generally means a place for the more or less temporary accommodation and training of ex-patients amidst rural surroundings, while on this continent the expression is often used to designate a permanent settlement. Both here and in England what is intended is not infrequently a combination of both. There has also been a great change in England in the conception of what type of cases the colony can serve. Originally only the most favourable arrested cases after sanatorium treatment or the earliest closed cases were considered suitable (8). Now in some of the English colonies a much greater latitude is permitted (36).

In spite of the undoubted progress of this branch of social work in England, a great deal of confusion still seems to exist with regard to the actual place the colony should fill and the kinds of work it should include.

(*a*) *Agricultural Colonies*

77. "Farm colony for consumptives" has been tersely and truthfully branded a misnomer by Jane Walker. "Farm work is an arduous skilled occupation and as such can be undertaken by few tuberculous people during their treatment or after" (37).

78. The Young Men's Christian Association Agricultural training Colony at Kinson, in Dorset, only with very great difficulty was able to enlist suitable ex-service patients up to the strength of its modest establishment of twenty-one. Although it has only been in operation since 1917, it is perhaps as good an illustration as any of a pure farm colony on a small scale and possesses some features which might be applicable to conditions in parts of British Columbia. In fact, a somewhat similar plan was actually suggested to us by an ex-patient with a very practical knowledge, not only of fruit ranching in the Okanagan Valley, but also of the limitations of the tuberculous. This plan will be more fully discussed elsewhere.

At Kinson the men live in wooden chalets (consisting of two sections with two beds in each section) distributed over a sheltered and wooded portion of the estate which in all, only comprises thirty acres. A central building contains dining and recreation rooms, kitchen and offices. The work consists of cultivating vegetables and fruits, keeping bees, rearing poultry and pigs, etc. (32). The men are divided into parties of four which work in rotation under skilful supervision for approximately a week at a time in:—

(1) Stock (care of animals).
(2) Carting and ploughing.
(3) General farm work.
(4) Market gardening and marketing.
(5) Poultry.

It is intended that these men when they have completed their training shall be given the opportunity of settling on small holdings in the neighbourhood as colony tenants. This will have the advantage of enabling them to continue under the supervision and direction of an expert farmer and encourage co-operation amongst themselves. In addition, in case of a tenant on account of ill health requiring to take a few days' rest, assistance upon which may depend the success or failure of a season can be provided by the colony pupils.

It was claimed last year that there was no doubt that the farm was "paying its way" but as owing to reorganization no balance sheet was available, to what extent this was literally true is difficult to judge (38).

79. Hairmyres, near Glasgow, one of the "pioneer" farm colonies for civilians, is planned on a somewhat larger scale to accommodate from 250 to 300 ex-patients. In addition to 300 acres of arable land there is a forest reserve of 6,000 acres available (39), (44). In addition to arable farming, the raising of tuberculosis-free stock and forestry training will be concentrated upon. Patients are largely derived from the iron and steel industry, but as yet their number has been so limited that definite conclusions about ultimate results, either therapeutic or economic, are not justified.

80. On this continent a modification of the farm colony has been successfully conducted at Eudowood Sanatorium near Baltimore for a dozen years. Its chief value to the ex-patients who are largely city dwellers has been therapeutic, supplementary to the sanatorium treatment proper, rather than to fit them to get their living from the land.

81. While giving full credit to the work at Kinson, Hairmyres and the best of the other farm colonies in Great Britain, such as the Royal Victoria Hospital Farm Colony near Edinburgh, it nevertheless cannot fail to impress itself on the impartial mind that "only a small proportion of patients are able to profit by agricultural training as a means of future livelihood" (40). This might perhaps be taken as a fair concensus of the opinions of those best qualified to judge, including many advocates of the method. The phrases used with reference to farm colonies are suggestive of their limitations. "Careful selection of cases is necessary to avoid the colony becoming a dumping ground" (Sir R. Philip, 41). "Limited usefulness" (A. H. McPherson, after many years' experience in directing colonies, 42). "Has very definite limitations" (Millard, 37). "Only for the irreducible minimum" (Lister, 37). "Its benefits must remain the privilege of the relatively few" (Niven Robertson, 37). "Farm labour and the seven-day week are unsuitable for the tuberculous" (Esther Carling, 43). "There is no magic but many snares about the land colony idea" (S. Vere Pearson, 43).

It is an acknowledged fact that "money and plenty of it" (46) is needed to meet the initial cost of the establishment of the farm colony scheme. Also, that those best qualified to judge admit that its ultimate economic value and even its therapeutic and moral effect is confined to only a comparatively small proportion of the ex-sanatorium patients, because of both their inclinations and physical limitations. The conclusion, therefore, seems inevitable that the establishment of a strictly agricultural colony scheme of sheltered employment can only be justified where the numbers of ex-sanatorium patients are very numerous and will be sustained, and also if no better alternative plan, presenting similar advantages, can be suggested.

(*b*) *Industrial Colonies*

82. The Industrial Colony combines the facilities for training afforded by the substandard shop with the provision of suitable accommodation, preferably in rural surroundings. Like the farm colony, its objects are to prolong without any interruption the treatment commenced in the sanatorium, while furnishing practical training which will equip the patients to earn a livelihood with a minimum risk to health.

83. The Mill House at Nayland is one of the few purely Industrial Colonies for the tuberculous in England. The East Anglican Sanatorium at a little distance from the village has for some time conducted a toymaking industry on a small scale which has met with no little success. When the problem of furnishing suitable employment for the ex-service patient after completion of his sanatorium treatment

began to press, the Mill House in the village was secured as a factory and an adjoining building was opened as a hostel to provide living quarters and meals. Chair-making, light metalwork and the designing and manufacture of art jewellery were the trades selected. One of us when inspecting this colony last year was informed by Dr. Jane Walker, who is responsible for its establishment, that it was her hope by degrees to convert the village into a model community made up largely of ex-service patients by developing the industry so as to enable those in training to settle there permanently. Married members of the colony were encouraged to bring their families to the village and continue to work in the factory. This affords an excellent illustration of the Industrial Colony idea, where the patients are received directly from the nearby sanatorium and are continued under its medical supervision while being trained, with the prospect of ultimately settling in a model community with the privilege of continuing in suitable employment.

84. In Canada, as well as in England, the possibilities of success offered by the Industrial Colony for the tuberculous would appear greatly to exceed those of the purely agricultural type. In fact Canadian climatic conditions, except perhaps in British Columbia, render the success of an agricultural colony even more dubious here than in England.

(c) *Combined Agricultural and Industrial Colonies*

85. Colonies combining the features of the agricultural and industrial types have developed from the realization that only a very limited proportion of ex-sanatorium patients can benefit by the opportunities afforded by the former alone. Consequently, industrial activities have in many instances either supplemented or partly supplanted agricultural pursuits. By thus broadening the scope of the colony, and by linking it up very closely with the well-equipped sanatorium so that the "line of demarkation is not very definite" (12), its advantages can be made available to a much greater proportion of patients than otherwise, and at an earlier period of their treatment.

86. One feature of the colony scheme which appeals strongly to married men as a great advantage is that from the realization that tuberculosis is a family problem has evolved the principle that the family should be the "unit of care." This has resulted in the provision of the necessary accommodation. This opportunity for re-establishment of normal human relations and standards (after a reasonable period of sanatorium treatment and in a well-supervised colony), is not unsafe for the other members of the family, even the children (23), lends much greater contentment to the prolongation of treatment, and helps to lead more easily to permanent settlement adjacent to the facilities for sheltered employment.

87. Perhaps the most widely known example of this combined type is the Training Colony section on the Papworth Hall estate in England. Here the objective is that which has been so well expressed by Pattison (32). Instead of the development of communities around industries for the sake of the industries, as has been the case in the outside world, the colony aims at the development of industries around a community for the sake of the community composed of former sanatorium patients.

On the same estate is a sanatorium and hospital where the patient is received for treatment, and retained as long as necessary. When considered fit for some work he is given accommodation in the training colony section and for two months is employed on probation. The work selected corresponds as closely as possible to his original occupation and in its selection his personal inclination towards a permanent employment is consulted. Here also experience has taught that men not previously engaged in agricultural work break down under it. Choice of occupations has so far been somewhat limited, both because of lack of funds and on account of scarcity of skilled instructors who are themselves ex-patients, as this is considered

a most desirable requisite. Up to last year training and employment have been furnished in carpentry and joinery, cabinet making, gardening, pig and poultry keeping, boot repairing and tailoring (12). Making of parts for a scientific instrument company has also been successfully undertaken (32) and other trades will be developed when funds and instructors are forthcoming. Sucess is claimed not only therapeutically, but economically. Recently, for instance, it has been officially reported that the poultry farm, built and run entirely by consumptives, has proved financially profitable, the profits being divided among the workers as wages (47).

After the two months on probation the patient begins to receive wages, the hourly rate of pay being one-quarter of that current in the neighbourhood for similar work, based on the assumption that his physical efficiency is one-quarter of normal. The maximum rate paid is calculated on the hypothesis that the patient can never achieve more than 50 per cent of normal physical efficiency. Pension for war disability does not affect the rate paid, but it is stated that if the colony is to be able to assume the role of a philanthropic, but unfettered, employer, a state subsidy equivalent to at least part of the deficiency in earning capacity is necessary, or the scheme will fail (26). No trouble has as yet been experienced through trade union interference.

88. In Massachusetts a group of private sanatoria has established a colony which, on a modest scale, will make available to patients and ex-patients some of the advantages which are features of the Papworth plan. It is in, and a part of, the village of Rutland, however, and no separate and distinct community unit is apparently contemplated (32).

89. Individual patients at a number of sanatoria visited expressed to us a wish that some scheme offering opportunities similar to those of the Combined Farm and Industrial Colony were in operation in Canada. From three sanatoria (Tranquille, Mountain and Laurentide Inn) we have received details of somewhat similar schemes originated by the patients. These plans the patients in each of the institutions referred to are anxious to see tried out, in which event a majority of those now in residence stand pledged to co-operate to the best of their ability in order that they may be made a success. These suggestions will be referred to again, but we feel that the interest thus expressed on the part of the patients supports our belief that some adaptation of the colony idea, which will be made the subject of a specific recommendation in another part of the report, is applicable to conditions in Canada and would prove worthy, at least for the purpose of necessary experiment, of inclusion in a comprehensive scheme of after-care.

(V) *Permanent Village or Community Settlements*

90. Although the idea of the permanent village settlement for the tuberculous has as yet had but very limited translation into fact, it is undoubtedly the logical complement of the training colony.

At Papworth the opportunity for permanent settlement is afforded on the same estate as are found the other two departments or stages of the Papworth scheme—the sanatorium and the training colony. The patient after some six months in the training colony is given the opportunity of permanent employment in the industry for which he has been trained, and of housing accommodation in the village settlement for himself and his family. At the time of the investigation by the British Inter-Departmental Committee this had in no instance been refused (12). In addition to the economic advantage of having the three parts of the Papworth scheme under the same management the transition from stage to stage is also made easier as the patient gradually and naturally becomes familiar with the opportunities that lie ahead of him and can make definite arrangements about his future home and work.

In addition to the assurance of good housing accommodation, and work fitted to his physical limitations, the settlement offers the ex-patient the comforts of family

life with escape from the atmosphere and many of the restrictions of the institution while he continues at the same time to reap the benefit of the most skilled medical supervision. Naturally these attractions are most potent with the married man with his sense of greater responsibility, than with the unmarried. If for the latter comfortable accommodation were provided in a homelike hostel to take the place of the married man's real home, the other advantages available would no doubt weigh heavily with him, especially in the presence of any previous experience of the difficulties met by the consumptive under ordinary conditions of life.

91. The value and future possibilities of the village settlement idea impressed themselves so forcibly on the Inter-Departmental Committee above referred to that in its report published in the summer of 1919 it recommended that the Government appropriate £1,000,000 to finance the cost of providing ten village settlements to accommodate 2,000 to 3,000 men and their families. Incidentally it might be mentioned that this estimate of cost has proved too low. Primarily intended for ex-service men, to whatever extent they will take advantage of them, eventually they will gradually become available for other ex-sanatorium patients and ultimately local tuberculosis authorities will be able to take the settlements over by refunding a portion of the cost.

92. A radical recommendation was made by the Inter-Departmental Committee regarding the pensions of tuberculosis ex-service men who become permanent residents of village settlements. In addition to a full pension for one year after completion of residence in Sanatorium or Training Colony, whether in a settlement or not, and a minimum rate of 50 per cent under any circumstances and at any time, an additional 20 per cent up to maximum disability rate was recommended in the case of any pensioner who takes up his residence in a village settlement for as long as he may remain there (12).

93. The recognition of the fact that many tuberculous ex-service men require particularly suitable accommodation and specially sheltered working conditions, not only during treatment and training but subsequently, suggests the desirability of the establishment of a permanent community or settlement as a logical development from the Training Colony. The very limited practical experience of this plan which can be cited, together with the heavy expenditure involved in the establishment of such a community, however, demand the greatest caution and the recognition of the essentially experimental nature of such an undertaking.

(VI) *Miscellaneous Plans and Suggestions*

94. Amongst the many verbal and fewer written suggestions regarding plans and schemes for post-sanatorium employment received by us from patients, officials, ex-patients and others, it seems desirable that the following should be placed on record.

FROM PATIENTS

95. *J. R. Pyper, patient, Laurentide Inn Sanatorium, Ste. Agathe des Monts, P.Q.*—Mr. Pyper is president of the Ste. Agathe branch of the I.T.S.W. League, which includes the ex-service patients at both the Laurentian and Laurentide Inn Sanatoria. At the meeting of patients on the occasion of our visit to the Laurentide Inn Sanatorium, there was ample evidence that the subject of post-sanatorium employment had received consideration and discussion previous to our visit, and that there was a general appreciation of the difficulties to be met by the consumptive in the ordinary labour market. This had produced a spirit of readiness to co-operate in any well reasoned scheme of sheltered employment that might be launched.

In a letter dated October 15, 1920, addressed to the chairman of the B.T.S.C., Mr. Pyper refers to this meeting and reports in detail the results of another meeting

of the patients from the two Sanatoria under the auspices of the I.T.S.W.L. He states that 130 men were present who voted unanimously in favour of the establishment of a training colony situated near a sanatorium. He adds: "It has been frequently stated that the men themselves are averse to a colony scheme but there would appear to be no reason to doubt its acceptance were a definite, clear-cut proposition put before them. The impression has obtained in the past that men would be forced into such a scheme, often against their will, and that when a man entered a training colony he would be obliged to remain there for the rest of his life. These wrong impressions are the cause why the colony idea has received little support when the subject has been broached hitherto." (A copy of the letter in full will be found in Appendix III.)

96. *Walter A. Hillam, patient, Sanatorium Tranquille, B.C.*—Mr. Hillam, at the patients' meeting which we attended when at Tranquille, expressed certain ideas which he and others had discussed with regard to after-care and employment. These were along the lines of a combination of farm and industrial colony with a village centre. Details of this scheme are incorporated in a report, a copy of which, and of his covering letter dated July 3, 1920, will be found in Appendix III. In this letter it is stated that the Tranquille branch of the I.T.S.W.L. has formally endorsed the suggestions made.

E. A. Palmer, patient, Sanatorium Tranquille, B.C.—Mr. Palmer has added to Mr. Hillam's scheme some suggestions relative to suburban dwellers. A copy of these will also be found in Appendix III.

97. *W. E. Sarel, patient, Mountain Sanatorium, Hamilton, Ontario.*—Mr. Sarel is secretary-treasurer of the I.T.S.W.L. Extracts from a letter from him dated November 3 will be found in Appendix III. The purpose of the letter is expressed in the following extract regarding a community scheme originating with the patients: "The Committee would be glad if you would do all you can to foster this scheme as the men would be very disappointed if by any lack of co-operation by the Government it should fail to materialize."

Amongst miscellaneous suggestions made at patients' meetings were the following:—

98. *At the Nova Scotia Sanatorium, Kentville, by Edward Pover.*—That certain sanatorium positions should be reserved for arrested or quiescent advanced cases.

99. *At Mountain Sanatorium, Hamilton, by H. D. McLelland.*—That a colony scheme was desirable because the ex-patients were too scattered to work together efficiently otherwise.

100. *At Laurentide Inn Sanatorium, Ste. Agathe, by ex-Sgt. Henry.*—That a readable pamphlet be written and circulated amongst the men with regard to the opportunities for work that might be developed. This N.C.O had, himself, made over $400 in the occupational shop on quite limited exercise during less than 18 months.

101. *At Mowat Memorial Sanatorium, Kingston, by —Hallett.*—Mr. Hallett, who claimed to base his recommendation on considerable practical experience, thought that poultry keeping in a colony scheme could be operated on a commercial basis. He suggested that it should at the outset be financed by a loan from the Government and that a competent Government representative should be placed in charge. A plant should consist of 500 birds per man, but he thought that a 3,000 bird plant would give returns to 10 men if operated solely for egg and flesh production, not for show birds. He thought that Government experimental farms did not tend to the development of the financial end of the business as much as the show end. He knew many successful 500 bird men. He believed that if men with pensions pooled their interest, the plan he suggests could be made to pay a reasonable return.

SUGGESTIONS FROM SANATORIUM AND DEPARTMENT OF SOLDIERS' CIVIL RE-ESTABLISHMENT OFFICIALS

102. *J. J. Bayliss, Officer i/c Occupations, Mountain Sanatorium, Hamilton.*—Copies of letters from Mr. Bayliss to members of the Board under date of August 12 and November 5, 1920, respectively, will be found in Appendix III. They provide a most interesting portrayal of the attitude of the patients at Mountain Sanatorium with regard to an industrial colony. They also prove the practical interest of the men by producing copies of an agreement as evidence of the readiness of 39 married men to co-operate to the fullest extent in a scheme for an industrial community. In the same appendix will be found a copy of a detailed report dated August 10 regarding an "Industrial Community for Discharged Sanatorium Patients in the Hamilton District." This appears to be a most reasonable expression of a practical proposal. Many details of the scheme have been carefully worked out with estimates of approximate costs. Many of the men have pledged themselves as prepared to make an initial payment of $200 each on houses in such a colony and the balance as rent at the rate of $15 to $20 a month. They would prefer to have the house construction financed by certain persons in Hamilton who have expressed interest in the scheme and to have the Government provide the sewer and water systems and the industrial opportunities. Methods of remuneration for pensioners resident and employed in the colony are also discussed.

Not only is the proposed scheme itself worthy of the most careful consideration, but the active, intelligent interest displayed by the men, their appreciation of the need and value of sheltered employment, and their apparent readiness to co-operate with one another, coupled with the reasonableness of their expectations of governmental aid, are all most promising.

103. *G. L. Drew, formerly D.V.T.O. Department of Soldiers' Civil Re-establishment, Toronto.*—In the same appendix will be found copies of certain correspondence with Mr. Drew with regard to some suggestions relative to methods of remuneration in curative workshops. These are valuable, but the reply from the chairman of the board points out at least one weak point. They, however, draw attention to a most important and practical feature of the problem of sheltered employment.

104. *J. R. Mathieson, Instructor in Woodworking, Balfour, B.C.*—A copy of a letter from Mr. Mathieson commending the establishment of a "commercialized substandard shop" in British Columbia will be found in Appendix III.

105. *R. G. Stagg, Principal Instructor, Balfour, B.C.*—In the same appendix is a copy of a letter from Mr. Stagg with certain suggestions regarding the application of the S.S. Act. Though the first paragraph is obviously somewhat impracticable as regards its application to tuberculous pensioners with an actual 100 per cent physical disability, the subsequent paragraphs do contain suggestions of some merit for the few suitable cases under certain conditions.

106. *E. B. Westby, Officer i/c Occupational Therapy, Queen Alexandra Sanatorium, Byron.*—Included in Appendix III is a copy of a scheme of after-care and employment of the tuberculous suggested by Mr. Westby. It is manifestly Utopian with ample evidence of an over sanguine expectation based on a most imperfect realization of the limitations of the tuberculous.

107. *Suggestions from an ex-patient and others regarding fruit farming in British Columbia.*—The men at various places suggested fruit-farming as a suitable occupation for tuberculous ex-patients, so we took the opportunity en route of making what observations we could and of collecting information from any who seemed able to give it. We made inquiries in the Kamloops district, a few in the upper Okanagan, at Kelowna, Penticton and Summerland, interviewing a number of practical men and visiting the experimental farm near Summerland.

Lieut.-Col. B. H. Belson, a pensioner with a disability from chronic bronchitis, the result probably of infected wounds, made some suggestions based on a wide experience of fruit farming, not only in British Columbia, but also in western Ontario. If the S.S. Act were amended to permit of loans on small holdings of one acre and upwards, these arranged around a central instructional fruit farm, not too far from a town, and operated in a manner similar to the Kinson plan, with sharing of overhead expenses and implements, would, he felt, be a practical proposition for selected tuberculous and other pulmonary pensioners.

The opinions of the president and secretary of the branch of the Great War Veterans' Association at Penticton were not encouraging, as their ideas of the capital, experience and hard work necessary for success were incompatible with the abilities of the average tuberculous pensioner. Mr. Helmer, Superintendent of the Experimental Farm at Summerland, was also not optimistic.

We continued inquiries as we had opportunity in the Nelson and Kootenay Landing districts. Altogether we found that fruit farming, as we already knew to be true of other forms of farming, was by no means a sinecure—that the fit man at the end of the season was usually pretty well tired out and that any branch of the work would need to be very greatly modified to become suitable for handicapped tuberculous ex-patients. The expense for fruit lands already planted or the long wait while the orchard was being started would require an almost prohibitive amount of capital. Co-operation among two or three men with very small holdings as a "group enterprise," might be possible but co-operation is always difficult. There might be exceptional opportunities for exceptional men, who would have skill and initiative, in lighter occupations such as seed growing but no general plan for any considerable numbers would be likely to be successful. The cultivation of small fruits on a small holding could be considered only in the case of a man with resources in his own household for the picking season.

On the whole, then, while for an occasional man of fair strength, intelligent and perhaps experienced, some branches of fruit or seed growing in the valleys of Southern British Columbia might be recommended, certainly no general recommendation could be made of this as a widely applicable scheme for tuberculous patients in general.

CONSIDERATION OF RELAPSES AND THEIR CAUSES

108. From the outset of our investigation we recognized the importance of securing the most reliable data possible regarding the proportion of Canadian tuberculous ex-service men whose admission for treatment by the department had been necessitated by relapse since their first treatment at Government expense. Accordingly, we made a consistent effort to secure from as many sanatoria as possible a report of the number of patients, both of those at present in residence and of those who had been discharged, who would be considered to have been admitted because of relapse, with an analysis of causes. These statistics, the factors affecting their accuracy, and other considerations connected with them, are considered at length in another of our reports. A brief discussion of the results obtained in relation to the question of after-care is, however, pertinent to the subject of this report.

109. As was to be expected, the percentage of those re-admitted after relapse amongst those now under treatment, as compared with that amongst those who had been discharged, shows an increase. This increase is from 11·1 per cent to 12·8 per cent, which amounts to 1·7 per cent of admissions or to 15 per cent of the relapses. As long as the present policy is adhered to (namely, that an ex-service man must have developed some symptoms or signs of tuberculosis before twelve months following his discharge from the army if he is to be considered eligible for treatment as for a war disability), the *proportion* of relapsed cases among those being admitted for treatment will obviously continue to increase, ultimately reaching 100 per cent.* It is equally

* This forecast is being borne out by recent developments. *Vide* Appendix VIII.

obvious that any efforts towards reducing the *actual numbers* requiring re-treatment are of great importance both to the patients and the public.

110. Of the total admissions to sanatoria for treatment, over 1,000, or 11·2 per cent, were readmissions on acount of relapse, and it is probable that these do not by any means include all who have relapsed. Though no comparable figures for civilians are available, the number is certainly sufficiently large, and considering the comparatively few years since the admission of the first soldier patient, the proportion is sufficiently high to demand very careful consideration of the causes of these relapses and the best means of combating them.

111. It is true that in most cases there is more than one factor concerned, but in the opinions of the various sanatorium medical superintendents the principal causes of relapse of the total of 1,042 instances were distributed as follows:—

CAUSES OF RELAPSE

	No.	Per cent.
I. Insufficient treatment originally	509	48·9
II. Intercurrent disease	174	16·6
III. Insufficient monetary compensation from Government	46	4·4
IV. Overwork	137	13·1
V. Unhygienic living conditions	3	·3
VI. Unhygienic working conditions	7	·7
VII. Misconduct	132	12·7
VIII. Others (unclassified)	34	3·3
	1,042	100·0

112. While it cannot of course be claimed that any system of treatment or after-care is going to prevent all relapses, it is interesting to consider on which of the various causes noted above, if on any, the particular methods discussed in this report would have a counter effect.

While the first noted, and chief cause of relapse, is insufficient treatment originally, this has generally resulted from the impatient demanding discharge before completion of treatment. It cannot be denied that an intensive system of medical supervision after discharge, assisting in continuation of treatment, would have some effect in reducing the numbers relapsing from this cause, and also of relapses the result of intercurrent disease, which otherwise would be more or less neglected. These first two causes are held to account for no less than 683 of the 1,042 relapses, or 65·5 per cent.

The next four causes noted (Nos. III to VI) are considered to have been the chief factors in producing 193 of the total relapses or 18·5 per cent. These causes are all more or less related to the size of the patient's income from all sources. For the moment, leaving out of consideration causes V and VI (unhygienic living and working conditions), it cannot be denied that the policy of giving a 100 per cent disability pension to practically every patient for the first six months after discharge from the sanatorium has probably had a material effect in so far keeping relapses from these causes relatively low. A comparison of the percentage due to these two causes amongst the patients already discharged, with that amongst those now in residence, shows an increase from cause III (insufficient pension) of nearly 100 per cent, and from cause IV (overwork) of nearly 150 per cent.

The proportion of relapses from these two causes appears to be rapidly increasing at a time when the effect of a reduction of income from pension necessitating over-

work at unsuitable employment is just *beginning* to be felt. It is reasonable, therefore, to suggest that prompt measures to ensure that the pensions of the tuberculous are never (or at least for a considerable period) to be reduced below an approved minimum rate, coupled with the provision of a certain number of opportunities for sheltered employment, may prevent a continuance of the rapid increase in the proportion of relapses from these two causes as well as considerably diminish the actual numbers which would otherwise occur.

It is a matter for congratulation that unhygienic living and working conditions are considered by themselves to have caused the relapse of so few patients. The proportion of relapses attributable to intercurrent disease, however, would suggest that unhygienic conditions, through being a factor in their spread, may be an important contributory cause of relapse.

In making an analysis of the causes of relapse, with regard to home conditions the sanatorium medical superintendents necessarily had to depend in most instances upon information supplied by the patients themselves. Acceptance of the small percentage thought to be attributable to unhygienic living conditions (0·3 per cent) should be qualified by the thought that perhaps few patients would realize or be willing to admit that conditions prevailing in their homes were "unhygienic."

Misconduct given as the cause of 132, or 12·7 per cent, of relapses, is one difficult to combat, for as has been well said, a fool cannot be cured of consumption. The old adage, however, attributes much misconduct to "idle hands," and idleness enforced through lack of opportunity for suitable employment, especially in the larger cities, has been quoted by the patients themselves as a great aid to temptation. Opportunities afforded by some form of sheltered employment would certainly do away with any basis for such an excuse at least.

POST SANATORIUM READJUSTMENT PERIOD GROUPS

113. We came to realize early in our investigation that the consideration of "the general question of the after-employment of S.C.R. patients discharged from sanatoria" in accordance with the terms of our letter of instruction, would require as an absolute essential some statistical basis with regard to the status, condition, capability and prognosis of patients on discharge from the sanatorium which was then unavailable from any existing collection of data.

114. We accordingly found it necessary to devise a classification for application to ex-service patients after discharge from a sanatorium while they were in what we termed the "Readjustment Period." This Readjustment Period was defined as "an intermediate stage" between the sanatorium and, either

(*a*) Economic rehabilitation, which might be
1. Complete or only
2. Partial;

or

(*b*) Reactivation, resulting in
1. Relapse with recovery again, or
2. Death.

Three groups were defined in one of which each patient could be placed on discharge in accordance with certain details regarding his present status and future expectation of occupational ability, his sanatorium classification on admission and discharge in accordance with the National Tuberculosis Association classification, and his actual physical ability for "light work" and walking measured by hours.

An indication of the critical period in the future of each group, and whether the maximum amount of financial compensation would probably be required, Temporarily, Indefinitely or Permanently, were also included. The three groups were designated:—

Group I.—Temporary

Group II.—Indefinite

Group III.—Permanent.

115. The Medical Superintendent of each sanatorium visited was furnished with a copy of these definitions in full. (A similar copy will be found in Appendix IV to this report, q.v.). He was then asked to classify in accordance with these groups both the patients in residence, and a serial hundred proportionately distributed amongst those discharged if they numbered more than 100. The reliability of the resulting statistical data is of course not absolute owing to the complexity of the factors involved, to the personal equation of the Medical Superintendent, and to the consideration of the discharged patients in almost every sanatorium on the basis of the representative serial hundred only. We believe, however, that they at least afford the best available basis for the consideration of the probable numbers of ex-sanatorium patients for whom sheltered employment may be needed in varying degrees.

Without further discussing in unnecessary detail the factors involving the accuracy of this data and the means used to correct them, as these are considered in another of our reports, it may be pointed out that an effort has been made to correct them by the elimination of readmissions and transfers, approximately 20 per cent of the total admissions. An apparent discrepancy between the number of deaths enumerated (in Section 117) and those recorded by the Department results from the inclusion in the latter of deaths occurring amongst patients while on its strength, but not in sanatoria, as well as from other unavoidable sources of error.

116. *Non-tuberculous patients.*—Attention might here be drawn to the fact that no special consideration has been given in this report to the problems of the patients with non-tuberculous pulmonary affections. This has not been from any failure to appreciate their importance or the magnitude of the numbers involved but rather from a real appreciation of both. Of pensioners granted awards on account of disabilities resulting from pulmonary affections during two years (from September 1, 1918 to August 31, 1920) 65 per cent or considerably over 4,000 were non-tuberculous. (*Vide* letter (Appendix V) from Secretary B. P. C. file No. 3-3-1 of 29-9-20). Of all ex-service patients treated in sanatoria since 1914 considerably under 800 (only 8·6 per cent) were non-tuberculous.

Accordingly we feel that the problem is too large and the opportunity for studying it afforded by the consideration of sanatorium patients alone is too small to justify either conclusions or recommendations which must of necessity apply to the whole group. We believe, however, that there are many men severely handicapped by pulmonary diseases other than tuberculosis, whose disability is so similar to that of the tuberculous that they may properly be considered in at least some of the plans made for the relief and care of the tuberculous. For this as well as for other reasons, no correction has been made in the data classified under re-adjustment period groups for the 8·6 per cent of patients who were non-tuberculous.

117. The following table shows the computed number of patients treated in the sanatoria in each province and unit area, classified by the sanatorium medical superintendents in accordance with the definitions of our Readjustment Period Groups.

COMPUTED NUMBER OF PATIENTS TREATED IN SANATORIA TO 30/4/20.

Province.	Totals.			Readjustment Period Groups.				70% of Groups I. and II.
	Unit Area	%	Computed Number	I.	II.	III.	Died in Sanatoria.	
British Columbia	"J"	9·2	796	286	263	199	48	384
Alberta	"I"	6·5	555	200	183	139	33	268
Saskatchewan	"H"	7·4	633	228	209	158	38	306
Manitoba	"G"	8·1	693	250	228	173	42	335
Ontario	"F"	18·7	1598	575	527	400	96	773
	"D"	12·4	1058	381	349	265	63	511
	"C"	8·8	751	270	248	188	45	363
(Ontario Total)		(39·9)	(3407)	(1226)	(1124)	(853)	(204)	(1647)
Quebec	"A"	14·9	1277	460	421	320	76	616
New Brunswick	"K"	3·4	291	105	96	73	17	141
Nova Scotia	"B"	9·5	827					
Prince Edward Island	"B"	1·1	92					
("B" Unit total)		(10·6)	(919)	330	304	230	55	444
Total numbers	.....	100	8571	3085	2828	2145	513	4141
Total reduced to percentage basis	.....	.....	100%	36%	33%	25%	6%	

118. In making application of the information contained in this table to the problem of providing suitable employment for ex-service patients discharged, and to be discharged, from sanatoria throughout Canada, it is probably fair to conclude that those clasified in Group III would not justify any elaborate measures for sheltered employment. The majority of the additional 400 who had died by April 30, according to the department's figures, would most probably have been included in this group on discharge and the mortality in this group will continue to be relatively heavy. Although it is possible that a few of these patients might ultimately be able to take advantage of some sort of opportunity for sheltered employment were it available this number is almost certain to be so limited as to be negligible.

Amongst patients treated in sanatoria those for whom sheltered employment might be considered is thus reduced at one stroke by 2,658 (the sum of those in Group III and the dead) from 8,571 to 5,913 (the sum of Groups I and II).

119. Under the circumstances the figures following can be at best only approximations but if in classifying these patients our definitions have been strictly adhered to it is improbable that more than 65 per cent of Group I would require, or 75 per cent of Group II would be willing to avail themselves, of opportunities for sheltered employment. A still smaller proportion of Group I would likely do so for more than a short time immediately following sanatorium treatment and many of these have already been discharged for a considerable period.

Although no reliable basis for this estimate exists we are inclined to believe that these deductions are not excessive judging from impressions gained through conversation with individual patients and from opinions expressed at patients's meetings. This then would leave about 70 per cent of the sum of Groups I and II or a total not greatly in excess of 4,000 tuberculous ex-service men distributed throughout Canada who would likely for greater or shorter periods be ready to take advantage of any scheme to provide opportunities for sheltered employment. The number which may be added to this total by new admissions of cases developing before the end of the year following demobilization will not likely exceed 500, certainly not 1,000. This additional number may for the present be left out of consideration.*

If our estimate of 4,000 who should be given the opportunity for sheltered employment is approximately correct, or even if only 75 per cent or even 50 per cent of this number require it, the responsibility for its provision is one which cannot be ignored.

120. It has already been pointed out that whatever is to be done in this regard must be done with as little delay as possible. Accordingly, it would appear desir-

* *Vide* Appendix IX.

able that one industrial training colony be established in one or possibly in each of the two provinces where there have been treated the greatest number who would be likely to take advantage of the opportunity. These are Ontario and Quebec and since, at the Mountain Sanatorium, Hamilton, and at the two sanatoria at Ste. Agathe, there is a definite demand on the part of a large proportion of the patients in residence for the establishment of colonies, these places would appear to be the logical locations for them. At the outset they should be limited in size to accommodate the actual number of patients prepared to enter, but so planned as to be capable of reasonable expansion to meet an increased demand, while the possibility of their easy conversion into permanent settlements should be kept in mind. The desirability of making such facilities available for civilian patients when and where possible is again emphasized.

121. In the Maritime Provinces it is doubtful if at present the establishment of a colony would be sympathetically received by the patients now under treatment, or meet with their co-operation. As a future possibility, it should be kept in mind, however, and immediate steps should be taken to study the opportunities for a combined Industrial and Farm Colony offered by the Annapolis or Cornwallis valleys. In any event a survey of ex-patients in Halifax and St. John would disclose whether a substandard shop on a small scale would not suffice to help meet the problem of suitable employment in the immediate future. Such a shop should be made the centre of intensive medical supervision and even in the event of a colony being developed later, it need not of course be scrapped.

122. In the western provinces the number of patients in any one which would likely be found ready to take advantage of a colony adjacent to a sanatorium is so limited that at the outset at least the establishment of such would not appear to be justified.

In British Columbia, however, the economic possibilities of co-operative fruit farming on small plots according to Colonel Belson's suggestions and along the lines of the Kinson farm colony in England should without delay be more thoroughly investigated by those competent to judge. If considered at all practicable under some modification of The Soldier Settlement Act, or otherwise, such a "group enterprise" should be put into operation on a reasonable scale in proportion to the number of suitable patients available.

A survey of the ex-service tuberculosis patients in Vancouver and Winnipeg should be made with a view to determinining the extent of the need of substandard shops in these cities. It is probable that their establishment would be justified in both. The same is true of Toronto and possibly of Montreal but this a survey of patients actually living in these cities, alone can definitely determine.

Of the two to four thousand patients under consideration the proportion which is distributed throughout Saskatchewan and Alberta is too small and probably too scattered to justify at the outset at least the establishment of any substandard shop, colony, or similar scheme of sheltered employment. Here, as well as in those parts of the other provinces not served by any suggested scheme, every effort should be made to assist the individual to re-establish himself by finding employment as suitable as possible through the means of Government bureaus and otherwise.

SUMMARY

123. Since many aspects of the care and employment of the tuberculous ex-service men after discharge from the sanatorium are as yet so controversial they have demanded the most careful and thorough investigation and consideration. This has involved their discussion at considerable length. Accordingly, in order to establish a proper perspective it is desirable to recapitulate in summary, first, our *conclusions* and second, certain specific *recommendations* in amplification of the suggestions implied in the conclusions and in the body of the report.

124. SUMMARY OF CONCLUSIONS

General. (Sections 8 to 16.)

(1) Sanatorium treatment alone and unaided cannot produce the best and most permanent results.

(2) Results produced are frequently dissipated by conditions and environment after discharge.

(3) All tuberculosis workers agree that a system of after-care is essential to consolidate the results of sanatorium treatment. They are not so unanimous regarding the best methods. No system guarantees against relapse.

Financial Compensation Pension. (Sections 17 to 24.)

(4) A lean purse is one of the main causes of relapse.

(5) A specially liberal award to the tuberculous pensioner is demanded by his special needs and limitations.

(6) For certain classes of the definitely tuberculous a minimum pension rate is desirable and justified.

(7) The "pensionable disability" of all cases of tuberculosis including so-called "aggravation cases" should not be less than the patient's actual disability.

(8) The stage and extent of the lesion, as well as the "classification on discharge" should be fully considered in fixing the percentage of disability.

Medical Supervision. (Sections 25 to 40.)

(9) Careful medical supervision is an essential of after-care.

(10) All Sanatorium patients appreciate the need of specially skilled advice.

(11) Ex-service tuberculous pensioners desire to avoid Board of Pension Commissioners examiners unless themselves convinced of retrogression.

(12) The Sanatorium Superintendent's opinion is universally preferred.

(13) Sanatorium and post-sanatorium medical supervision should be most intimately correlated.

(14) Existing clinics should be more used and other facilities developed.

(15) A "shortage of tuberculosis specialists" exists.

(16) Efforts to afford medical graduates and under-graduates special training at sanatoria deserve government aid.

(17) Efficiency of "follow-up" depends on visiting nursing service. Its work should, if possible, begin while the patient is still in the sanatorium.

(18) The Department's tuberculosis visiting nursing service should be developed to meet increased demands. Its record forms should be standardized.

Housing. (Sections 41 to 43.)

(19) Good housing is of importance to the tuberculous.

(20) The cost of removal from a poor house to a better, and a difference in rent, are justifiable expenditures.

(21) Hostels for single men under certain conditions should be provided.

Employment. (Sections 44 to 107.)

(22) Suitable employment is desirable on therapeutic, economic and moral grounds. It is an individual problem.

(23) Occupations cannot be listed as good or bad, but certain principles determine their suitability. These principles involve the work, the environment, and the individual's condition.

(24) The consumptive's opportunities for suitable work are extremely rare. Phthisiophobia, however unwarranted, is a factor in this.

Sheltered Employment.

(25) Philanthropists occasionally employ the few; for the majority sheltered employment should be created.

(26) Tuberculosis labour seldom pays and must be subsidized. Such subsidy is justified.

(27) After-care implies sheltered employment.

(28) The State should early initiate the establishment of sheltered employment for the tuberculous ex-service man.

(29) The active co-operation of other agencies, with extension of employment privileges to civilians, should be encouraged.

(30) The ex-service men's attitude is important. Their opinions though conflicting, are, on the whole, not unfavourable.

(31) The various schemes of sheltered employment should be carefully considered.

Individual assistance.

(32) Assistance of the individual to find a suitable opening is occasionally all that is necessary.

Government appointments.

(33) The reservation of suitable government appointments for tuberculous ex-service men is not practicable.

Substandard workshops.

(34) A substandard workshop for the tuberculous has been successfully operated. It demands most capable management.

(35) For city dwellers this type of sheltered employment has certain advantages over others. A survey of tuberculous ex-service men residing in all the large Canadian cities should be made.

(36) The substandard shop to train and employ tuberculous ex-service men should be cautiously introduced into Canada at strategic points on an experimental basis.

(37) Pay should be proportionate to skill and work accomplished since incentive is necessary. Pension also should be maintained.

Agricultural colony.

(38) A purely agricultural colony for the tuberculous has narrow limits of usefulness.

Industrial colony.

(39) The industrial colony combines the advantages of training and suitable employment with residence in rural surroundings.

Combined colony.

(40) The judicious combination of industrial and farm colony offers the greatest hope of success.

(41) The colony should be closely linked up with the Sanatorium.

(42) A State subsidy is essential for success.

(43) The family of the patient should also be accommodated as it forms the "unit of care."

(44) The colony scheme for the tuberculous ex-service men warrants trial in Canada in a carefully selected location.

Permanent community settlements.

(45) The Permanent Community or Village Settlement is the logical complement of the training colony and may develop from it.

Fruit farming.

(46) Fruit farming, like other farming, is no sinecure for the tuberculous. Co-operation amongst a few exceptional men on small holdings might be possible, but will always be difficult. Certainly no general scheme is widely applicable.

Relapses. (Sections 108 to 112.)

(47) Over 1,000 patients have required retreatment since their first treatment at government expense. These are 11.2 per cent of the total admissions to sanatoria.

(48) Sixty-five per cent of relapses are attributed to "insufficient treatment originally" and "intercurrent disease."

(49) Eighteen per cent of relapses are attributed to "insufficient monetary compensation from the Government" and "overwork."

(50) Relapses emphasize the need of after-care.

Non-tuberculous pulmonary patients. (Section 116.)

(51) Non-tuberculous pulmonary patients amongst ex-service men treated in sanatoria were too small a proportion of the total non-tuberculous chest cases to justify discussion of the whole group.

Readjustment period groups. (Sections 113 to 115 and 117 to 122.)

(52) Lack of suitable data regarding occupational ability necessitated special classification of patients treated in sanatoria. Though reliability of the results is not absolute no better are available.

(53) Less than 6,000, or 69 per cent of those treated were considered fit for any employment at discharge.

Less than 4,000, or 48 per cent of those treated would likely take advantage of sheltered employment, and possibly only 3,000 or less.

(54) The responsibility for providing suitable employment for even 2,000 or 3,000 distributed throughout Canada cannot be ignored.

125. SUMMARY OF RECOMMENDATIONS

It is recommended that:—

Medical supervision.

(1) A copy of the precis of the patient's case should go direct from the sanatorium to the clinic responsible for his future supervision.

(2) The development of tuberculosis clinics for ex-service men should be facilitated in Halifax, St. John, Montreal, Ottawa, Kingston, London, Winnipeg and Vancouver.

(3) In Saskatchewan and Alberta the necessary assistance should be offered the provincial sanatoria to make possible the medical supervision of ex-service patients after discharge.

(4) The Department of Soldiers' Civil Re-establishment Social Service Nursing Staff, should be amplified and organized in close co-operation with clinics to ensure that all tuberculous ex-service men, not in sanatoria—pensioners as well as out-patients—are followed up and visited at sufficiently frequent intervals. Only suitable nurses specially trained should be detailed to this duty. The record forms used by the nursing service should be standardized for tuberculous patients.

Employment.

(5) All government employment bureaux should be required to seek out and specially list openings suitable for selected tuberculous ex-service men.

(6) Revision of the Soldier Settlement Act, 1919, should be considered to enable its application in the case of selected suitable tuberculous patients.

(7) The provision of the opportunity for sheltered employment as a part of after-care of the tuberculous should be a recognized policy. The practical application of this policy should be undertaken from an experimental standpoint and cautiously developed.

(8) Every effort should be made to have approved non-Governmental agencies assume the responsibility for the establishment and operation of whatever means are undertaken for furnishing sheltered employment. Financial aid from Government sources will be required for maintenance and probably for establishment.

(9) A survey of tuberculous ex-service men residing in Halifax, St. John, Montreal, Ottawa, Toronto, Hamilton, Winnipeg and Vancouver and later possibly also in Kingston, London, Regina, Calgary and Edmonton should be taken with a view to ascertaining their need of, fitness for, and attitude towards opportunities for sheltered employment, either in substandard shops or Colonies.

(10) Steps should be undertaken to establish substandard shops in cities where conditions warrant.

(11) The experiment should be initiated of establishing an industrial colony in close association with the sanatorium either at Hamilton or Ste. Agathe.

(12) The practicability of the application of the Kinson plan to fruit growing in British Columbia should be further reported upon by some one competent to judge of its economic possibilities. If judged practicable the greatest care must be exercised in the selection of patients, suitable both temperamentally and physically to try the experiment.

C. D. PARFITT, *Chairman,*
J. R. BYERS,
A. F. MILLER,
D. A. STEWART,
WM. M. HART,
D.S.C.R. Board of Tuberculosis Sanatorium Consultants.

APPENDIX No. I

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APPENDIX No. II

From Bulletin No. 29 Re-education Series No. 5. "Treatment and training for the Tuberculous," issued by the Federal Board for Vocational Education, Washington.

OCCUPATIONAL HEALTH STANDARDS

The following standards cover nearly, if not quite all, the health factors that will enter into the problems of training and placement. Not all will have a bearing on every case, but all the cases met will involve most of them.

A few explanatory comments are given to make the subject clearer:—

Groupt I.—Factors due to the personality of the worker—

(*a*) Present health:—The amount of damage done by and the degree of arrest of the tuberculous disease, as shown by the medical survey, should be carefully considered.

(*b*) Temperament and education. Is he "high strung" or phlegmatic, stupid or quick of perception? The extent and direction of the man's education both in school and by experience will enter into the choice of training course and job.

(*c*) Choice of vocation and trade:—It is a cardinal principle that the man shall be consulted as to his hopes and ambitions; that previous experience shall be utilized whenever possible in retraining. This holds true for tuberculosis as for other disabilities.

(*d*) Age will have a direct bearing on training. One soldier with only a common-school education who had been a warehouseman wanted at the age of 39 to become a minister. The vocational adviser convinced him that his education was too limited and his age too advanced to undertake training for the ministry.

(*e*) The soldier, would not of course, be directed to a trade largely followed by women.

Group II.—Factors due to conditions of work—

(*a*) Character of work.—Active or sedentary; heavy or light involved and complicated, or simple as to operation; per diem or piecework.

(*b*) Attitude and position.—Sitting, standing, stooping. An occupation requiring a continuous stooping or strained position would be unsuitable.

(*c*) Time, duration and pauses.—Day or night work, the latter usually unsuitable. The work should not be seasonal, requiring intensive application at certain times of the year, as the canning industry. Speeding up at the end of each month, as is frequently done by bookkeepers might prove serious. The tenure of employment should be reasonably certain.

Hours of work.—Eight or less, suitable; nine or more, unsuitable.

Pauses.—Lunch hour imperative and brief rest periods desirable.

(*d*) Fatigue, tension and responsibility.—Lifting heavy weights or any work requiring vigorous exertion of the upper extremities, especially if long continued, should be avoided. Severe bodily effort, continued nerve strain, and too much responsibility are dangerous.

(*e*) Wages must be adequate for the healthful support of the man and his family.

Group III.—Factors due to materials and processes—

(*a*) Dusts (*b*) poisons (*c*) gases and fumes.—Their kind and quantity must be taken into account. They may act as direct irritants to the throat and lungs or lower the general "tone" thus leading to breakdown.

(*d*) Infectious material.—This will not affect employment in well conducted sanatoria where infectious material is properly disposed of.

(*e*) Dangerous machinery and appliances affect the tuberculous no differently than other employees except as nervous strain contributes to breakdown.

Group IV.—Factors due to the place of work—

(*a*) Outdoor and indoor work.—This has already been discussed. These cases should not work in strong drafts nor high winds, under a burning sun, in superheated shops, greenhouses, etc., nor in slush and rain.

(*b*) Construction of work place.—Flooring is an important item. Damp or wet floors are unsuitable places. Basements, underground jobs, and overcrowded shops should be avoided.

(*c*) Air and ventilation.—Temperature and humidity. Frequent changes in shop air are imperative for the health of all workers. In artificially heated places of work and abode the most desirable temperature range is 65° to 70° F. The minimum for the tuberculous should be 55°. The maximum should not exceed 75°. Relative humidity for these temperatures should not be below 30 per cent or above 60 per cent.

(*d*) Light and illumination.—The amount and intensity of light suitable for the kind of work to be done should be determined. This however, is a matter of shop inspection for the placement officer, and it is suggested that he study the lighting codes of those States that have adopted such a code.

(*e*) Sanitary care and comforts.—Drinking, washing and toilet facilities of approved types. (See appendix.) Club and rest rooms desirable. Employers who have developed a department of industrial medicine will be more likely to have a sympathetic and helpful attitude toward the tuberculous workers.

To recapitulate and place these factors in outline for ready reference they are presented as follows:—

OCCUPATIONAL HEALTH FACTORS FOR THE TUBERCULOUS

Group I.—Factors due to personality of the worker—

(*a*) Present health

(*b*) Temperament and education

(*c*) Choice of vocation and trade

(*d*) Age

(*e*) Sex

Group II.—Factors due to conditions of work—

(*a*) Character of work

(*b*) Attitude and position

(*c*) Time, duration and pauses

(*d*) Fatigue, tension and responsibility

(*e*) Wages.

Group III.—Factors due to materials and processes—

(*a*) Dusts

(*b*) Poisons

(*c*) Gases and fumes

(*d*) Infectious material

(*e*) Dangerous machinery and appliances.

Group IV.—Factors due to the place of work—

(*a*) Outdoor and indoor

(*b*) Construction of work places

(*c*) Air and ventilation, temperature and humidity

(*d*) Light and illumination

(*e*) Sanitary care and comforts.

To use this set of standards intelligently it will be necessary to have lists of occupations with a brief but comprehensive description of the activities or operations which characterize each occupation.

The United States Bureau of Labour Statistics has already issued several such lists, and these have been sent to the district offices. Others will be sent as they appear. The Trade Specifications and Occupational Index of the United States Army (Form CCP-504) will also prove useful.

APPENDIX No. III

Copy of letter dated 15th October, from J. R. Pyper, addressed to Dr. C. D. Parfitt, Calydor Sanatorium, Gravenhurst.

Dear Sir—When the S.C.R. Board of Consultants visited Ste. Agathe some little time ago, you asked me to write to you and give you an idea of the views of the patients here on the subject of "after-care." I regret the delay in complying with your request, but it was only recently that I had the opportunity of having the matter discussed at a fully attended meeting of the I.T.S.W.L., and before writing you I thought it better that as many patients as possible should have an opportunity of airing their views on this all-important subject.

It was explained to the meeting to which I refer that your board seemed to favour a system of workshops in various cities in which the patient who had been discharged from sanatorium could work a few hours each day according to the advice of his physician. It is understood that there are a few of these workshops at present in operation in Toronto and Hamilton, Ontario, and that they are proving successful as a stepping stone in the re-establishment of the substandard man from hospital to civilian life.

The patients here fully recognize the value of the "Vetcraft" shop in the connection referred to, but are strongly of opinion that they are unsuitable as a means of re-establishing the tuberculous patient. There are various reasons to be advanced in support of this contention.

Firstly.—It would not seem desirable that patients should move direct to cities upon their discharge from sanatorium. The air and general environment in cities is undoubtedly bad for tuberculous people; the temptation to neglect the continued rest which is essential to their good health and the opportunities afforded to men, whose

time is not fully occupied of forming evil habits, make it undesirable that discharged patients should live in cities.

Secondly.—Suitable housing for a tuberculous man and his family cannot be obtained in a city. Besides the health of the ex-patient there is that of his children to be considered, for is it not the case that although the offspring of a tuberculous parent do not necessarily inherit the disease they inherit a predisposition to it, and require to live lives which will keep their power of resistance high.

In the *third* place; strict medical supervision is necessary in the large majority of cases in order that men may keep their trouble arrested. Frequently relapses occur because the men work too many hours a day, or engage in work which is entirely unsuited to their physical condition.

In cities medical supervision is difficult, if not impossible, and it would be found that only in a few cases would men be fortunate in having at their disposal the advice of an expert in tuberculosis. I venture the opinion that a chest examination by the average physician to-day is comparatively valueless to the man who has taken the cure unless his condition has become decidedly bad.

I would like to emphasize this point in regard to medical supervision. It was one about which nearly every member of the recent Parliamentary Committee was greatly concernd and many times the opinion was expressed that a measure of supervision was absolutely necessary in order that the health of the ex-sanatorium patient might be safeguarded.

These are the three main reasons why, in the opinion of the patients of Ste. Agathe, the "Workshop-in-the-city" scheme should not be adopted as a means of post-sanatorium treatment for tuberculous ex-service men.

Now let me explain to you briefly the type of "after-care" favoured by the men here.

Perhaps I had better say at the outset that about 130 men were present at the discussion on the subject of this letter, and the vote was unanimously cast in favour of a training colony situated near a sanatorium, in preference to the "Vetcraft" shop scheme. It has been frequently stated that the men themselves are averse to a colony scheme but there would appear to be no reason to doubt its acceptance were a definite, clear-cut proposition put before them. The impression has obtained in the past that men would be forced into such a scheme, often against their will, and that when a man entered a training colony he would be obliged to remain there for the rest of his life. These wrong impressions are the cause why the colony idea has received little support when the subject has been broached hitherto.

The advantages resulting from having a training colony located near a sanatorium must be very evident to any one having only a little knowledge of the requirements of a scheme of "after-care." The colony worker has few worries; he is still able to breathe pure air; he has the peaceful quiet that he enjoyed while taking his cure; his environment is not to be compared to that which would have been his lot in a city; he feels that contentment of mind which can be bred only by the knowledge that his tried and trusted sanatorium doctor is close at hand in case of need; and he sees his family growing up in healthful surroundings; his re-examination for pension purposes—always one of the things uppermost in his mind—could be carried out by the sanatorium doctor in whom he reposes the fullest confidence.

The question of housing need present few difficulties to the authorities. The erection of cottages of an approved design could be carried out as part of the general scheme, and these would form the nucleus for a permanent settlement in the event of success attending the initial entrprise.

But of course there must be an industry or industries for the purpose of training men and for providing employment after their training is completed. In this respect it is submitted that the final decision as to the nature of such industries must rest with the tuberculosis experts, as none other are fitted to make the selection in view

of the peculiar nature of the disease and the care which must be exercised by the ex-patient in order to prevent a relapse. The selection of an industry may not meet with the entire approval of every man but the success of any enterprise depends largely upon the enthusiasm of its workers and on behalf of the patients at Ste. Agathe I can give the confident assurance that the necessary enthusiasm exists in this sanatorium in no small measure.

Just one word more in support of the plea for training colonies in preference to the "Vetcraft" shop in the city. The latter would seem to be an excellent means of assisting in the re-establishmnt of the ex-soldier disabled from causes other than tuberculosis, but what would its chance of success amount to as a means of re-establishing tuberculous men? I submit that the benefits of the Vetcraft shop to the tuberculous man are negligible, and if there is one scheme which proves a failure, then only so much harm accrues to a better plan which might otherwise prove the ideal form of "after-care." A man who has seen one plan fail might be very loath to try another.

Apart from the treatment of the tuberculous soldier there is always the question, what material progress are we making in dealing with tuberculosis? Is not the question one of such importance as to warrant the financial, practical and moral support of the Government in the fullest measure? Let us prove the practicability of the colony-for-the-tuberculous-people idea, in Canada, by the establishment of a colony where the necessary enthusiasm for such a scheme exists, and let those who proved themselves enthusiastic fighting men lead in a national fight against the disease which claims for its victims so many valuable lives yearly from our midst. They were victorious, thank God, in one fight; give them the chance to be victorious in another.

I trust that I have succeeded in conveying to you the views of the soldier-patients in Ste. Agathe Sanatorium on the vitally-important-to-them subject of "after-care," and if there is any point upon which you might desire to have their further views, I shall be pleased to obtain them for you.

Yours very truly,

(Sgd.) J. R. Pyper,
President,
Ste. Agathe Branch I.T.S.W. League.

The Sanatorium,
Tranquille, B.C.,
July 3, 1920.

The Secretary,
Board of Tuberculosis Consultants,
Department S.C.R.

Dear Sir,—In accordance with your suggestion I have embodied into attached report some of the ideas I mentioned orally at meeting of the Tranquille Branch of the Invalid Tuberculous Soldiers' League, held this afternoon, and submit same for the consideration of your board, together with an addenda by E. A. Palmer.

The proposed scheme outlined is attached, together with addenda, has been endorsed by a meeting of the Tranquille Branch of the I.T.S.W.L. copy of resolution being attached herewith.

Yours very truly,

(Sgd.) Walter A. Hillam.

Scheme for Substandard Shops (or Industrial Plant) and Farm Colony with Village Centre proposed by Walter A. Hillam, Tranquille Sanatorium, with Addenda by E. A. Palmer, Tranquille, on proposals for Suburban Settlement.

July 3, 1920.

In view of the trend of modern scientific opinion towards solving the problems of post-sanatorium life—it being generally admitted that tuberculous persons are under a life-long handicap—I outline below a scheme which embodied some features which have proven successful in the United Kingdom and in the United States, together with some original suggestions.

The proposed scheme is dealt with under two headings, e.g., Industrial and Agricultural.

INDUSTRIAL

I would propose the establishment of industrial plants to be located in or near large centres where light manufacturing could be carried on in well-lighted, airy structures specially designed or adapted for tuberculous persons. In these plants, the substandard shop plan would be practicable. Work could be apportioned according to the physical capabilities of the individual. For instance some men would start by working two-hour shifts, increasing to four and six hours in accordance with medical directions. Payment would be made in proportion to the hours of employment. In this connection the suggestion is made that Government aid be given to bring each man's earnings up to a certain minimum. A sliding scale could be devised which would give an incentive to work in the plant.

While the question of suitable trades should naturally be left to the discretion of tuberculosis specialists, I submit the following employments as mentioned in reports of old country institutions of a similar character.

Light furnituremaking.
Basketry.
Toymaking.
Fretwork.
Bootmaking.
Tailoring.
Leather-working.
Pottery, etc.

I would advocate the operation of stores and selling agencies for the disposal of the products of the plant.

In connection with the proposals for Government industrial plants I would suggest that consideration be given to the erection of hostels for single men and for the provision of special housing accommodation for married men.

COLONY FARM PLAN

In order to provide for the peculiar needs of a community of tuberculous persons the provision of easily-accessible medical facilities seems to me to be of paramount importance, and therefore the establishment of a Central Village, surrounded by small holdings, would appear to meet the special exigencies of the case. In this centre would be located a:—

(*a*) Cottage sanatorium with dispensary, doctor and nurse in attendance;
(*b*) Church and school;
(*c*) Meeting house, with library;

(*d*) Co-operative store;

(*e*) Produce selling association;

(*f*) Laundry and baths;

(*g*) Hostel for single men;

(*h*) Administration building, with staff quarters.

There would also be a centrally-located dairy and creamery run on communal lines, the same as all other units of the settlement. These facilities would make the colony entirely self-contained.

The size of the holdings would be governed naturally, by the class of agriculture suited to the location of the settlement. If the raising of small fruits, poultry and bee-keeping were undertaken a five-acre tract would probably be sufficient. On the other hand if general farming was to be carried on larger holdings would be necessary.

The proposed settlement, in order to be in a position to dispose profitably of its products, and to obtain supplies, should be located within easy reach of transportation facilities which could be afforded by means of motor trucks.

The institutions proposed for the village centre would be a big factor in developing the true communal spirit upon which would depend to a very large extent, the success of the settlement. The meeting house would provide a place for frequent social gatherings and for showing moving pictures, holding concerts, etc.

Cottages with sleeping porches and built on generally approved open air treatment lines would be a feature of the farms.

In conjunction with the co-operative store I would suggest the operation of a produce selling agency run on similar lines to those established in the fruit-growing districts of British Columbia.

The entire business of the settlement would be under the direction of a competent business manager who would order supplies for the store and dispose of the products of the colony.

I will not attempt to go into the question of finance other than to suggest that some scheme similar to that of the Soldiers' Settlement Board be adopted.

In the foregoing I have not attempted to do more than to roughly outline the broad features of the proposed schemes but will be willing to supplement this brief sketch with further and more detailed suggestions if required.

(Sgd.) Walter A. Hillam.

Addenda to Mr. Hillam's Substandard Shop and Farm Colony Scheme.—Submitted by A. E. Palmer, Tranquille Sanatorium, July 3, 1920.

As there will be a considerable number of tuberculous cases who for family and business reasons will not wish to depart from the vicinity of the larger centres I suggest that these men be catered for on similar lines to the present Soldier Housing Scheme, i.e. that they be advanced money for the following purposes:—

(1) Purchase of one to five acres of land on which to start fruit-growing, poultry-raising, etc.

(2) Erection of a house suitable to the particular requirements of a T.B.

(3) Purchase of stock for erection of buildings as required.

With regard to funds advanced, I beg to draw attention to the conditions outlined in my complaint (submitted separately). I am strongly of opinion that for a tuberculous patient to start an enterprise on borrowed money and not get full market value for that money, would be bad not only for him but also for the community.

(Sgd.) E. A. Palmer.

THE INVALID TUBERCULAR WELFARE LEAGUE,
MOUNTAIN SANATORIUM BRANCH,
HAMILTON, ONTARIO, November 3, 1920.

DR. HART,
Calydor Sanatorium,
Gravenhurst, Ontario.

DEAR DR. HART,—On your last visit to this sanatorium you expressed a wish that I should write you fully on the progress of the League in this City. I now take this opportunity of redeeming my promise and will give a brief survey of the work done since you were here.

With regard to the work of the League I am pleased to say that the patients in this institution are taking great interest in all discussions which take place at the bi-monthly meetings especially respecting the questions of after-care such as Vetcraft workshop, housing, etc. Of the total strength of 114 patients, 101 are members and we are increasing daily.

In connection with the community village scheme which was being started when you were here, I am pleased to state that the opinion of the men has not changed. On the contrary more men are becoming interested in the scheme and the same men who were taking up the matter are still strong in their sincere desire to become owners of their own houses under the community village idea. At present we have 35 men who have signed their names as being in good faith and we are expecting a great many more in the very near future. We are also communicating with all ex-patients in Hamilton with a view to obtaining their ideas on this project. There are also several men now working at the Vetcraft workshop who are desirous of joining the scheme and hope for a great success.

The committee would be glad if you would do all you can to foster this scheme as the men would be very disappointed if by any lack of co-operation by the Government it should fail to materialize.

We hope to publish the first edition of our new Journal in December, and I would much appreciate if you would favour me with an article on whatever subject that you would care to write, but I would like very much to have one on the "after-care" of ex-soldiers (T.B.), as you are interesting yourself so much on this phase of the work.

In conclusion I would be glad to receive your comments and any suggestions you care to make for my guidance.

Yours very truly,

(Sgd.) W. F. SAREL,
Secretary-treasurer, I.T.S.W.L.,

MOUNTAIN SANATORIUM,
HAMILTON, ONT., August 12, 1920.

DR. PARFITT,
Calydor Sanatorium,
Gravenhurst, Ontario.

DEAR DR. PARFITT,—You will remember that, when the members of your commission were speaking to the men at this hospital the subject of a "community" was brought up by one of the doctors, and the men who were in favour of such a scheme were asked to show their approval. Since your visit the community idea has been a very live one here. The married men have held several meetings and have handed me the enclosed statement, signd by thirteen of them. Several men, since that time, have asked that their names be added to this list.

The men are all from Hamilton and ask that a community be established somewhere in the suburbs of this city. They have discussed the matter quite thoroughly

and are so sincere in their attitude that they are willing to pay for the proper kind of houses in the form of rent. They suggest an initial payment of two hundred dollars ($200) and monthly payments of from fifteen to twenty dollars.

There are probably as many more men in this hospital, who would be willing to go into a scheme of this kind but who live in other cities. As the petition was gotten up by the Hamilton men only, these others were not asked.

To me, this is a most interesting phase of the question as it is the first time that any definite proposition has been made by the men. Your talk did a great deal of good and several meetings have been held to discuss the questions brought up by yourself and your colleagues.

The essentials asked by the men in such a scheme are:—

Good road

Plenty of running water with arrangements for sewage disposal

Easy access to street car or radial line

Good school for the children

A protected industry, similar to that now in operation in the city of Hamilton for the sub-standard soldiers

Their whole attitude is so extremely reasonable that I believe considerable progress could be made, if encouragement was given at once.

In the opinion of the medical staff, these men are suitable cases for such a scheme.

I am, yours sincerely,

(Sgd.) J. J. Bayliss,
Officer i/c. Occupations.

TUBERCULOUS SOLDIERS' WELFARE LEAGUE

We the undersigned are in favour of colonizing patients suffering from tuberculosis and other chronic diseases on the understanding of making this colony an industrial centre, for the manufacture of arts and crafts, such as basket weaving and art, pottery and toy-making.

Signed:—	Married	Dependants.
Harvey Alderson,	"	8
W. B. Evans,	"	5
W. E. Moore,	"	5
Wm. B. Smith,	"	5
G. N. Wright,	"	7
A. J. Du Four,	"	6
N. A. Clifford,	"	7
A. J. Brider,	"	6
A. H. Lambert,	"	6
G. H. Coffey,	"	4
R. O. Winnie,	"	2
J. A. Nash,	"	2
F. L. Edwards	"	7

Certified J.J.B.

Mountain Sanatorium,

Hamilton, Ont., November 5, 1920.

Dr. W. M. Hart,
"The Calydor,"
Gravenhurst, Ont.

Dear Dr. Hart,—I was very glad to receive your letter of enquiry regarding our plans for a community village. I prepared a report for you immediately after your visit but through some oversight it was delayed for a time and when we heard that you had left for England I sent the letter to Dr. Parfitt and held the original report until your return. I am now sending this belated report on to you.

As you know, there are so many elements to bring together in a plan of this kind that it takes all "the well known optimism of the tuberculous patient" to keep going, but I believe we have made some progress since your visit.

You will be interested to know that the enthusiasm of the men is growing. The original thirteen have stood together and increased the number to thirty-nine and I believe we must plan our community for not less than fifty families, at the start. For a while I feared a break, as the men were badly divided as to the location, the east and west ends of the city and the mountain top having each a number of advocates. It was a rather severe test of the men's sincerity and cohesion but they came through very well. After some rather warm arguments they appointed a committee to visit and report on each of the proposed localities, and pledged themselves to abide by the decision of the majority.

The committee were given the use of our department car and visited each suggested location. They ended by reporting unfavourably on all the proposed districts, and named one of their own choosing, which was accepted by the majority, at a very well attended meeting, and the choice was made unanimous after all the men interested had visited the locality.

The proposed site is about four and a half miles from the centre of the city and about two and a half or three from the city limits. It is on the Brantford radial line where it reaches the top of the mountain and runs on the level. The radial line, at this point, is crossed by a road recently taken over by the Ontario Government, which will become part of their good roads system in a short time. It is an easy run by road to the city and is within a couple of miles of a good village. The run on the cars to the city is between fifteen and twenty minutes. The land is rich, sandy loam and good spring water is obtainable. The price of the land averages about $200 per acre. Dr. Holbrook considers the location almost ideal.

The financial backing is expected from a group of three or four wealthy men in the city, who have expressed willingness to help financially, but are unable to give any time to it. They have named a colleague, now returning from Europe, as their representative. This gentleman is on the Board of the Hamilton Health Association and is also secretary of the Town Planning Association. It is expected that on his return to Hamilton, in a week or so, we will have a definite statement from him, so we are marking time until his return. Several other prominent people have volunteered to help, but it was felt it was best to wait until we had an answer from the group of men in question.

I had a very interesting discussion with Mrs. Barnett, one of the founders of the "Garden City" of Hampstead, in England. She considers our plan quite feasible and is sending us details of the system used in financing the Hampstead Community. She also enlisted the support of several prominent people, who at once offered us their support.

Of course, until our man returns from Hamilton, our plans are tentative, but a site has been selected—a farm of 142 acres—and we intend to secure an option on it the next few weeks. We hope to build our dwellings under the Ontario Housing Act and to do that must have the approval of the township council. It can

then be taken up with the Provincial Government. Some help can be expected from the township and Government in the matter of roads. The township must provide the school, while the community hall will receive assistance, to the extent of $2,000, from the Ontario Government. We have then the two greatest difficulties to face—waterworks and sewage disposal and the establishment of a Vetcraft workshop. We have some assurance that the workshop will be established but financial assistance must be forthcoming, for the rest.

Advice and encouragement have been received from Mr. Thos. Adams of the Town Planning Department, and Mr. Cromarty, of the same department, has also been very helpful. The latter gentleman gave an illustrated lecture on housing and communities to the men in the sanatorium and he remarked at its conclusion that he had seldom lectured before such an attentive audience or one which asked so many sensible questions.

I may say that the Tuberculous Soldiers' Welfare League at this sanatorium, which was reorganized last summer, has made this community scheme a part of their campaign and are now carrying on propaganda with this in view. I have asked Mr. Sarel, the secretary of this branch, to communicate with you and explain the aims and objects of the reorganized league.

The most favourable feaure is, without a doubt, the attitude of the men here and I believe that in a very short time it will become the driving force behind the movement.

The foregoing, Dr. Hart, shows pretty well what we have done since my first report. Major Drew, late Vocational Officer for Ontario, and Mr. S. T. J. Fryer are taking an active interest in the scheme and while they are not now with the department, their help is valuable. A very encouraging thing is the willingness of everyone to help.

I will keep you posted on any new developments and would be very thankful for any advice and assistance you might give us. I am enclosing a copy of the petition being prepared by the men. All the names do not appear on this list as several are on leave or have left the sanatorium.

I am, your sincerely,

(Sgd.) J. J. Bayliss,
Officer i/c Occupations.

Mountain Sanatorium,

Hamilton, Ont., October, 1920.

We, the undersigned hereby sign our names as being desirous of participating in the community scheme thus showing our good faith.

Signed:—

M. Wright, 274 Barton St. E., Hamilton.
J. W. Burgess, 197 Ferguson Ave. S., Hamilton.
W. H. Berry, 72 Charles St., Hamilton.
J. Nash, 385½ York St., Hamilton.
A. J. Brider, 80 Cameron Ave., Hamilton.
Thos. B. Mabb, Napier St., Dundas, Hamilton.
Wm. B. Smith, 156 Birch Ave., Hamilton.
W. B. Evans, 366 Emerald St. N., Hamilton.
W. E. Moore, 50 Douglas St., Hamilton.
G. Fairbrother, 240 Bold St., Hamilton.
H. Clark, 5 Rowanwood Ave., Beach Road.
John J. Clushman, 296 Wilson St., Beach Road.
Wm. Murray, 182 East 24th St. Mt. Top, Hamilton.
E. G. Elliott, 367 Catharine St. N., Hamilton.
A. Sprowson, Homeside P.O. Julian Ave., Hamilton.
L. G. Dudding, 76 Stuart St. E., Hamilton.

M. J. Malley, 198 York St., Hamilton.
J. Williams, 99 Cheever St., Hamilton.
H. Alderson, 34 Sunset Ave., Hamilton.
E. W. Hubbard, 65 Harrison Ave., Hamilton.
G. H. Coffey, 197 Alberta St., Hamilton.
Wm. F. Henderson, 88 Keith St., Hamilton.
Arnold Gosling, 175 Fairfield Ave. E., Hamilton.
A. H. Lambert, 4 Fannings Ave., Hamilton.
Cecil Bonham, 431 McRobert Ave., Toronto.
Frank Edwards, 57 Edinburgh Ave., Hamilton.
N. E. Grant, Box 191 Dundas, Hamilton.
F. A. Stock, 24 Locomotive St., Hamilton.
Thos. C. Wilson, 65 Wellington St. N., Hamilton.
T. Harrop, 237 Catharine St. N., Hamilton.
W. Chapman, 21 Kinrade Ave., Hamilton.
A. Grundy, Dundas, Ont., Hamilton.
A. J. Du Four, 22 Lochearne St., Hamilton.
Peter Brown, 365 Ferguson Ave., Hamilton.
Alfred A. Roach, 60 Edinburgh Ave., Hamilton.
Norman Anderson, 93 Wellington St. N., Hamilton.
Ralph Winnie, 183 Logan Ave., Toronto.
Clifford, N. A., 23 Severn St., Hamilton.
R. McGloac, (address undec.), Hamilton.

Mountain Sanatorium,

Hamilton, Ontario, August 10, 1920.

Dr. Hart,
Calydor Sanatorium,
Gravenhurst, Ont.

Re Industrial Community for Discharged Sanatorium Patients in the Hamilton District

Dear Sir,—As your visit yesterday was so short and so little time was available for discussion of the housing scheme, proposed by the patients at the Mountain Sanatorium, I am taking the liberty of sending you an outline of the plan as we have it, together with a short history of the movement.

The interest of the men became very great, after the visit of yourself and associate doctors at this sanatorium, and a proposal was made shortly after.

The interest of the men is mainly due to two elements, the acute state of the housing situation in the city of Hamilton and the establishment of the sub-standard workshop, which, in Hamilton, is mostly for the benefit of men with chest disabilities. Much of the unrest amongst the married men in this sanatorium is caused by the uncertainty and unstability of their home conditions. Where a man is compelled to move his family every few months, owing to increased rentals or improper housing, he cannot be expected to complacently take the "cure" and pay no attention to the distress of his dependents. The regrettable feature is that the better type of man is the one who gives most trouble in this particular. That this situation is real is proven by the statement of the medical health officer for the city of Hamilton, that last month there were only fifty vacant houses in the city. Twenty of these were unfit for habitation owing to bad sanitary conditions.

The necessity of decent housing conditions, at a reasonable rate, is, therefore, forced on the men. The sub-standard workshop has aroused very keen interest in the patients. Hardly a day passes without several inquiries and it is not too much to say that many of them look upon it as their sole hope for the future. This interest is steadily increasing. There is a strong local feeling in Hamilton, so pride in their Hamilton workshop and the many conplimentary things said about it, doubtless, has something to do with the proposal of the men, who are all residents of the city of Hamilton and district.

Their proposal, as stated to me at several meetings is this—they are willing to undertake the purchase of homes in any location within easy distance of the city of Hamilton making their initial deposit of from one to two hundred dollars, paying the balance in the form of rent, providing the Government will establish a sheltered industry, similar to the Hamilton sub-standard workshop. They would prefer that, if possible, the housing proper be financed by private individuals, mentioning the names of several Hamilton business men, in this connection. They, however, feel that they would need Government help in such a scheme in the matter of providing industries, pure water supply, a school and other conveniences.

Several desirable sites for such a community have been discussed and visited. The general feeling is that it should be on the mountain, within easy walking distance of an incline railway, though a site in West Hamilton, on the lower level is favoured by some.

They agreed on a tentative plan shown them. This plan calls for fairly large lots, with fifty feet frontage and a depth of from one hundred and fifty to two hundred feet, the houses arranged around a central park or play ground and emphasis being placed everywhere on the necessity for fresh air and sunlight. The plan was drawn up by Mr. S. T. J. Fryer, an experienced architect, who is a senior official in the Department of Soldiers' Civil Re-establishment and a man of wide experience in re-establishing invalided soldiers. The plan was accepted by the men, almost without question, and is, therefore, quite sound from the point of view of the men, the builder and the re-establishment worker.

To test the feasibility of the scheme, from a purely commercial point of view, we discussed the question with a prominent Hamilton real estate man, who promised to finance the home building himself and supply the necessary land, at a reasonable figure. As turning a plan of this sort over to a real estate man, on a purely mercenary basis, has its obvious disadvantages, we made no agreement with him. He has since expressed his desire to address the men on the question.

The plan calls for the immediate erection of from twenty-five to thirty dwellings, at a figure of from $3,000 to $3,500 each, built on the "garden village" plan and would take from twenty-two to thirty-six acres of land, which would provide sites for industry, school, stores, churches and community hall with a large open space in the centre as a play ground, streets, sidewalks and running water to be provided and trees and shrubs planted where necessary. The amount required to finance it would be in the neighbourhood of $150,000, of which about $100,000 would come back in the form of payments on the houses. The amount required for the installation of the water system would be about $10,000.

As it is felt that a community of thirty houses would be entirely inadequate to meet the increased demand for accommodation this thirty-house plan may be considered as a unit only, which can be enlarged indefinitely if sufficient land is pre-empted. The community is planned with this in view. The work-shop, public buildings and water supply would provide for upwards of one hundred homes. The second and succeeding units would, of course, be cheaper proportionately.

This is the scheme. It is, to a certain extent, a business proposition, but to a greater extent an urgent necessity and there is a feeling of good will on the part of the men heretofore not in evidence. I will deal with a few details which I consider important.

In this scheme no attention is paid to the single man. They are at best, rather luke-warm towards the plan and it is felt that later on, if the need arises, provision can be easily made for them in the community. At present, the married men see the need of such a move and the single men do not. The married men of course, have a much greater sense of responsibility.

Another point we are not considering is that brought up in the meeting at which you were present; that is of men who wish to live in the city and work in the community. The community, to be self-contained, must cater chiefly to those within it.

No objection will be made to men who are living in the city receiving employment in the industry, but they should be urged to live there. The reverse class, those who wish to live in the community and work in the city, should be classified a little differently, as their home environments and interests will be all in the community.

The most important point of all is the recognition of what is known as the "basic rate" in the Vetcraft workshops. This basic rate or some similar measure, granted to men in properly approved industries, will in itself go a very long way towards solving the problem of "after-care." Any employer may employ a man for the few hours a day he is supposed to work and give him good remuneration for them, but unless this man's pension is balanced, in some way, with his disability, the few hours' pay will only be a drop in the bucket to him. With this basic rate provided for, the few hours' pay will, on the contrary, make the difference between misery and comfort. The basic rate can also be used as a lever to get suitable men into the industry. It should, in my opinion, be granted to only one industry in each centre, as the multiplication might lead to exploitation of the substandard men. I would repeat that the fixing of the basic rate is the most important step in any protected industry and no one can do it as well as the Government.

With the workshop established and the men assured of decent houses, the re-establishment of a large proportion of the patients is assured.

In several discussions on the community scheme, the question of operating the industries and businesses on a co-operative and profit-sharing basis has been brought up. The men feel that they, at present, would not be capable of carrying on in this way, but they could work with that as an objective. The profit-sharing plan in the industrial community of Port Sunlight, England, inaugurated by Lever Brothers, soap manufacturers, comes in for much favourable comment. In this community all the employees share in the profits. Every employee has the chance to own his own home and the normal working day is six hours. Lord Leverhulme, who controls Lever Brothers, inaugurated this system, which is successful.

They are very favourably impressed with the idea of the Community Housing at Hampstead Heath, established by Mrs. Barnett.

There are, as you know, many difficulties ahead of such a scheme, but none of them unsurmountable. The greatest difficulty hitherto has been that of the apathy and, in some cases, antagonism on the part of the men, and this has now been overcome. The plan will be small to start with, but provision is made for enlargement.

I will be glad to give you any other information regarding local conditions that you may desire.

I am, your sincerely,

(Sgd.) J. J. Bayliss.

Re BASIC RATE

A proposal has been made in connection with the payment of wages at the Hamilton workshop which somewhat differs from the basic rate noted herein. This proposal is simply that the pension scale be fixed somewhere near the mark before the man is admitted to the workshop. It is proposed that he be paid so much per hour for his work, ignoring his pension completely. That is, a man who worked two hours would get paid for two hours' work and a man who worked six hours would receive pay for that number of hours. The pay would be in three grades; that is, apprentice, improver, journeyman or artisan. This would give credit for increased efficiency.

The difference between the two schemes is that one adjusts the pay to the pension within the workshop; the other ignores the pension completely and pays the man only on the amount and quality of his work.

The Allen Building,
107 Simcoe Street, Toronto,
August 24, 1920.

Dr. C. D. Parfitt,
Calydor Sanatorium,
Gravenhurst, Ont.

Dear Dr. Parfitt,—We have discovered in the operation of our workshops under P.C. 2328 that a very vital difficulty exists in the matter of regulations covering pay and allowances.

The maximum we are allowed to pay, including pension and all other sources of income, is vocational pay and allowances; in the first place this is very small when it is considered that many of the individuals should have special diet; in the second place everyone is on the same basis, and whether they are industrious and effective or not makes no difference. There is no incentive to effort. The only hold we have on them is to cut their pay if we consider they are not doing as well as they should, and the types we have to deal with cannot be handled effectively in this way. A fine for lack of effort is poor inspiration and will not accomplish the result that a bonus for extra effort would accomplish, which I think you will readily agree with. Thirdly, we are not reaching a great number of the cases which we should have on our strength. Men who are drawing large pensions will not come to the shops for the reason that, if they are drawing full pensions, they figure that they are working for nothing, as we are unable to pay them but very little more, if any, than their pensions amount to.

This has been a vital question with us for some months; in fact ever since this Order in Council was in operation. We anticipated this difficulty when the regulations first came out, but being anxious to get under way and conceiving that objections on our part at that time would entail delay, we accepted the regulations, as they were supposed to be temporary and could be readily changed on recommendations based on experience.

Our idea of this proposition is that a pension should cover fully the man's industrial handicap and that the workshops should enable the man to supplement that pension by such effort as he is able to make. As the pension in many instances is inadequate, we would in the shops determine by experience the man's industrial handicap, which, if greater than the pension, we would supplement the pension under P.C. 2328 to what we consider a fair basis and then pay the man for the actual time he put in at the shops, at a varying hourly wage depending upon his industrial ability.

Mr. Burnette has evolved a very workable scheme, copy of which I attach.

I am, yours faithfully,

(Sgd.) G. L. Drew.

Toronto, July 15, 1920.

Mr. Burnette, 200 College St.

Vocational Officer for Ontario.
Major G. L. Drew, D.S.O.

Mr. Robertson's letter re P.C. 2328.

I attach herewith as requested by Mr. Robertson individual reports showing what may be earned under P.C. 2328 if paid on the sliding scale, instead of the flat rate as at present. My scale is based on an hourly basis; it being the unanimous opinion of all concerned that a piece rate scale is not desirable. The explanation of the scale is as follows:—

There is obviously a very great difference between a pension which aims to compensate for war disability only, and a man's present condition in terms of industrial handicap; this is very marked in the case of the old men, who constitute the major part of our problem. I propose to "weight" the pension part through part of the payment made under P.C. 2328. In calculating the total industrial handicap, I have estimated the man's lessened worth to industry as a percentage of the full pension, taking into account dependents; this and the pension which he is actually drawing, constitute the "minimum wage" or what I have called "the basic rate." To earn this man must work the full number of hours shown by me as being his full capacity; it being understood that this means work at a selected occupation under supervision, such condition, in fact, as obtain in our workshops. This figure is calculated with allowances made for shortened working days, on account of mental or physical fatigue, and also a percentage taken off for sickness which might confine the man to his own home, or necessitate his attendance at out-clinics. The man will be docked for all non-attendance. I have also set a "grade rate" at so much an hour and depending upon the man's increase in effort and skill; this rate I have set at 25 cents for novices 40 cents for appretices and 60 cents for experts. The grade marked with a tick on each form is the grade in which I place the man at present. He can advance and earn more money, or he can fall off his work and will earn less through reduction in grade. If the falling off in work is due to failing physical, or mental health, there would be compensation through raising the industrial handicap, and through the basic rate. A change in pension would also be adjustable in the same manner, if it should appear that any hardship is worked in individual cases, there is no reason why intermediate bonuses at 5 cents or 7 cents an hour could not be inserted between the three grades. I claim that the scale as it stands, is capable of adjustments so fine that any case can be scientifically and humanely rated, without altering the working of the whole system.

I give one stated case in detail.

Name—Hughes, W. J.—One dependent,
War disability—Myalgia,
Pension—$7.50 per month.

Man is 51 and looks 65. He is prematurely aged and physically exhausted. He can only be relied upon for 28 hours work per week. Taking into consideration his past training, temperament, mental endowment and age when figuring on what possible use he might be in the open labour market I rate him as 55 per cent disabled. The full pension for a man and his wife is $75 per month, 55 per cent of this is $41.25 so that $41.25 is the basic rate, and, in exchange for this we demand 28 hours of work per week. He had been here long enough to become partially skilled at his work, so that, instead of drawing a novice's pay of $41.25 plus 28 hours at 25 cents for a 28-hour week making $69.25 he would be graded as an apprentice and draw $41.25 plus 28 hours at 40 cents for a 28-hour week, making $86.05. Under the present P. and A. he draws $85. If he advances into the expert grade, he would draw $41.25 plus 28 hours at 60 cents for a 28-hour week, making $108.45.

In calculating the actual amount chargeable to P.C. 2328 it must be remembered that my basic rate includes the pension which the man is actually drawing just as the present total allowance under P.C. 2328 takes into account the pension. In making a deduction for non-attendance, the value of an hour is to be calculated by taking the product of basic rate plus total hours demanded multiplied by grade rate; dividing this by the total hours demanded and multiply the dividend by the hours lost; thus non-attendance of three hours in Hughes' case is:—

$$\frac{41.25 \text{ plus } (112 \times 40) \times 3 \quad \text{(note } 112 = 28 \times 4 \text{ weeks average month)}}{112}$$

This is necessary otherwise, if a man had a very high basic rate, and deductions were only made from the grade rate multiplied by hours, the man would be tempted to loaf, knowing that he was always sure of the first mentioned sum.

In conclusion I might state that the necessity of providing the incentive to effort is something which is very apparent to all activity engaged in this work. Taking into consideration all the handicaps, under which our working force operates I calculate that the lost time through non-attendance should be 13 per cent. As a matter of fact, the average loss to these shops since we opened, has been 23.92 per cent working hours paid for but not worked, a leakage of 11 per cent.

September 7, 1920.

Major G. L. Drew,
Department S.C.R.,
The Allen Building,
107 Simcoe St., Toronto.

Dear Major Drew,—I read with interest your letter of the 24th August regarding the adjustment of pay and allowances in workshops operating under P.C. 2328.

I feel that the existing adjustment of pay and allowances for men working in the subnormal shops has distinct disadvantages through killing incentive to effort and thereby arises the failure often to meet the needs of men of better qualification.

You probably read Colonel Hart's examination by the Parliamentary Committee, in which, relating to the tuberculous, the general principal of adequate compensation from whatever source was insisted upon as a basic principal.

On reading Mr. Robertson's letter *re* P.C. 2328 which you were good enough to enclose, it appears to me that the basic rate idea will interfere with the principle of pension for war disability. Moreover its purpose is to compensate a man for his own natural disability apart from war disability, and if compensation is necessary for natural disability, it seems to me that that should be a civil responsibility apart from war pensions.

Thus far I have only been able to give this matter brief thought and my conclusions may be unwarranted. It is altogether a complex problem and one which opens a wide door which I can well understand the authorities at Ottawa are reluctant to do.

Colonel Hart is now working on the general problems of the "after-care" of the tuberculous, which will be part of our report to the Director of Medical Services, D.S.C.R., and your letter will receive full consideration.

We have only been back a short time since the completion of our tour. I regret to learn that meantime matters have so developed that you are withdrawing your services from the department.

I shall be very glad to hear from you at any time.

With kind regards,

Yours very truly,

(Sgd.) C. D. Parfitt.

Balfour, B.C., July 10, 1920.

Sanatorium Consultants.

Gentlemen,—As requested by you I embody my suggestions made at this morning's interview as to possible ways of re-establishing the disabled man in civil life, more particularaly the man suffering from pulmonary disease.

I think that a commercialized substandard shop in which men may work to the amount of exercise recommended by their medical officer would be a possible means of helping them after discharge.

In British Columbia there would be a good market for small boats and canoes.

As British Columbia is becoming more and more a tourist centre there is an ever growing market for fine inlay work and carved work, such as trays, boxes, etc., as souvenirs. Said souvenirs will sell at a price that would give the maker a fair profit.

I am, yours truly,

(Sgd.) J. R. Mathieson,
Intructor in Wood-working.

Balfour, B.C., July 10, 1920.

Sanatorium Consultants.

Gentlemen,—As requested by you in this morning's interview I beg to submit my proposals as to the re-establishment in civil life of the more seriously disabled man and more particularly the man suffering from tuberculosis or any allied chest disease.

I suggest that the Soldiers' Settlement Board be requested to abate the strictness of the regulations now in force by them in the following particulars:—

(1) That men who are discharged from sanatoria and rated even as high as 100 per cent disabled as well as those men who are probably permanently disabled to a certain degree, not now determinable, and those in receipt of a permanent pension, amputation cases, etc., be permitted and assisted to take up land under the Soldiers' Settlement Board.

(2) That the land thus taken up may be in smaller lots than is now allowed, viz., five acres by the S.S.B.

(3) That these men be allowed to and expected to engage in some other gainful occupation, such as piano tuning, tailoring, barbering, or ony other occupation that meets with the approval of the medical officer who has had charge of the man, and which occupation the man may have followed formerly but could not now engage in in the open labour market.

(4) It naturally follows from paragraph 3 that this land must be in a suburban or residential district.

(5) When a man has selected the piece of land he desires the neighbourhood must be inspected by some competent person such as a vocational officer or possibly the industrial commissioner of the district as to its suitability for success in the occupation under consideration by the man, as well as by the S.S.B.

A similar resolution was adopted and passed some eighteen months ago by the Amputation Club of Vancouver, with what success I do not know.

Yours truly,

(Sgd.) P. G. Stagg,
Principal Instructor.

The After-Care of the Tuberculous Patiets

E. B. Westby,
Officer i/c Occupational Therapy,
Queen Alexandra Sanatorium,
Byron, Ont.

The question "what shall be done with those who have been hammered out on the anvil of war by both germs and Germans" still confronts us. With those disabled through wounds the solution is easier, but when we come to those afflicted with disease, we are still far from a final way of dealing with them. The victims of tuberculosis are specially deserving of consideration. A great deal has been done for them in the

active and convalescent stage, but the problem for which the paper attempts to offer a solution, is the re-establishment of the tuberculous soldier, when he no longer requires sanatorium aid.

On leaving the sanatorium the ex-patient is more or less fit to engage in some industrial occupation. For him to be compelled to compete with those who are fit 100 per cent industrially is out of the question, and would neither be fair to the man as an individual nor to the country as a whole. No one would be so unreasonable as to ask the discharged patient to do a daily 100 per cent of industrial work which he did before donning khaki. On the other hand in this age of competition, we can hardly ask the manufacturer to provide part time employment. In the majority of our factories and industries the work is so co-ordinated and interlinked that each man is but a unit of the whole, or a link in the chain, and if one unit or link is weak the whole suffers. In most cases the investment in machinery is a heavy expense to the employer, and for him to operate at a profit it is necessary that each machine be kept working to its fullest capacity. This being the case it is absolutely necessary for the ex-sanatorium patient, if he is employed in such industrial occupation, to do a full day's work. This he cannot do or he will cause a recurrence of his disability, which will necessitate further treatment. The general opinion is that at least 60 per cent of the dischargees are not fit to put in a maximum day on the labour market. The sudden transition of a man from "taking the cure" to going to a full day's work is, to put it mildly, a severe shock to his whole system, and is bound to be attended with disastrous results.

In the event of a recurrence of the disability two things happen, a loss of production to the country and additional expense. In view of the great struggle for increased trade and a favourable trade balance with other nations, it is most essential that the former be prevented. Our greatest leaders and financiers are telling us every day that increased production is the keynote of success for our country. Surely then we would be rendering the nation a great assistance in preventing a decrease of same.

A careful survey of the whole situation will show that a satisfactory solution to the "after-care" problem, is Government industries and commission houses for the ex-patients. In establishing such we must consider not only the hours of working, but the environment for him and his family. Fresh air and sunlight in both factory and home are essential. To secure this the greatest care must be given to the location and building of such industrial plants and houses, under the very best hygienic conditions.

It is suggested that the Government work along a similar plan to that adopted for the Prison Farm at Guelph. That a tract of land be procured to the extent of two to four hundred acres, a central industrial plant, houses for the workers and central stores be erected thereon. That the houses be rented to the workers at a fair rental, and supplies sold to them at a fair profit.

The operation of the industries would be on the same lines as those used by private enterprises. All finished articles would be placed on the market for sale, and all cash returns credited to the industries. In the case of many of the workers entering the industry, it would be necessary to train them in a line of work which they choose as their future vocation. Such workers would enter the industries as apprentices, and particular attention would be given them in order to make them as efficient as possible in the work, so that when they are again fit to enter the industrial world they will be to a fair degree expert workmen. This branch of the work of the industry would be performing the duties of vocational retraining, such training is a great asset to the country, as is recognized in the operation of our large technical schools.

The farm would be operated with a double purpose in view. First, to provide the workers and their families with vegetables, fresh eggs, milk, etc., at a fair price.

Secondly, to train and employ those ex-patients who are interested in farm work. As far as theih physical condition will permit, all work would be done by the ex-patients.

Although our sanatorium doctors are advising the patients on discharge from hospital not to go into the poultry business, market gardening, farming, etc., this class of work is recognized as the ideal occupation for many ex-patients. The reason for such advice is that it is a very difficult matter for one inexperienced in this work to go into same and make a financial success of it. It has been found in the case of many taking up this work that the financial worries do more to set the man back physically than the hard work and more than offset the good derived from working in the open air. However, if the financial worries were eliminated the work would then be most beneficial to the man's health, and he would slowly but surely regain his full strength again.

In the case of the farm under the management suggested all of the harmful influences would be eliminated, and the ex-patient would gain in strength and at the same time learn the farming business, so that at some future date he will have sufficient knowledge to operate one successfully for himself.

The operation of the whole organization should be under a board of management, representative of all departments, the whole to be working in harmony in a similar manner to that of our great industries and departmental stores. Both the farm and the industries would be operated with a view of becoming to a fair degree self-sustaining.

Medical supervision would always be exercised, so that work would be performed in accordance with the workers' physical and mental state.

By the above plan the country instead of being compelled to provide for a large annual loss, will be the gainer to the degree in which a former charge becomes a producer and self-sustaining.

R.R. 1,
Vernon, B.C., May 24, 1921.

Col. W. M. Hart,
22 Vittoria St., Ottawa.

Sir,—Some time ago I received a letter from David A. Stewart, Esq., M.D., Medical Superintendent of Ninette Sanatorium, Manitoba, asking if I would write my experiences for the benefit of the board, enquiring into work suitable for tuberculous men. As I have gained greatly improved health by taking up fruit farming in British Columbia after being discharged from the army (Imperial), I very gladly offer the following information in the hope that it will be of service to you and sufferers with T.B.

I must first say that my case was not severe and after three months' sanatorium treatment in England, my lung was supposed to be healed. Later indoor occupation set up the trouble again, and I therefore decided to come back to Canada in August, 1919. Orchard work always appealed to me, having had charge of one near Penticton, B.C., previous to the war. I qualified under the Soldiers' Settlement Board and bought a property of 13½ acres, with about 9 acres of fully bearing orchard. It does not pay to buy raw land—the work of clearing is much too laborious and the waiting for returns from the trees too long. The climate in this district, which is a part of the Okanagan valley, is also greatly in favour of healing the lungs because of the pine-laden breezes, the clearness and dryness of the atmosphere and the mild winter—it is possible to be outside every day of the year.

Regarding the work of fruit-growing, there are some branches hardly suitable for the majority of patients. Ploughing is heavy work, as also are lifting full orchard boxes, weighing 50 pounds with fruit, onto wagons or trucks; steady picking of apples into bags hung over the shoulders, holding when filled about 20 pounds. Then there are incidental "chores" on a fruit farm which must be attended to. Of

these felling and cutting firewood are very trying.

On the other hand orchard work is usually very pleasant—in moderation. Pruning taken easily is quite interesting and does not entail much effort, neither do cultivating, spraying, irrigating and light picking.

On the whole, fruit-farming should be suitable for tuberculous men, but they should have or be provided with considerable capital, orchard property being high in price—up to $1,000 an acre.

Any further information I shall be glad to supply.

I am, sir,

Yours truly,

(Sgd.) C. Wm. Cresswell.

APPENDIX No. IV

CLASSIFICATION OF EX-SERVICE PATIENTS AFTER DISCHARGE FROM A SANATORIUM WHILE IN THE READJUSTMENT PERIOD

An intermediate stage between the sanatorium and

(*a*) Economic rehabilitation
  1. Complete
  2. Partial

(*b*) Reactivation
  1. Relapse
  2. Death

Group I.—Temporary.

Gronp II.—Indefinite.

Group III.—Permanent.

Post Sanatorium Readjustment Period

Group I.—Temporary Period—

1. Status.—Patient fit to resume old occupation or to undergo vocational training for re-establishment preferably under conditions prevailing in sheltered employment.
2. Future.—Full-time work at old or better occupation is to be expected.
3. Sanatorium Classification.—On admission, probably suspect, incipient, or moderately advanced (good type).
4. Sanatorium Classification.—On discharge, probably apparently arrested.
5. Capability.—On discharge, almost normal; 4-6 hours' light work and two hours' walking. Time for readjustment to normal life is desirable.
6. Critical Period.—Relapse most likely in second year when sanatorium restrictions regarding work and home life are neglected.

   Mortality heaviest in fourth year after discharge. Approaching normal in seventh year.
7. Compensation.—(Pension or P. & A.). Maximum should be maintained temporarily. Subsequent adjustment according to condition.

Group II.—Indefinite period—

1. Status.—Patient must live a modified restricted life else he will relapse. He is fit for part time work only. Special consideration from employer is necessary. Relapse is certain under conditions in ordinary labour market, because of the demands of the employer, and of the competition of fellow employees.
2. Future.—(*a*) Sanatorium life indefinitely—undesirable.
   (*b*) Work in sheltered employment with relative re-establishment through modified vocational training. Possibly a small proportion of group may become economically independent by the 4th year.
   (*c*) Suitable occupation in shop or piece work at home.
   (*d*) Home industry.
3. Sanatorium Classification.—On admission—Probably moderately advanced or far advanced (good type).
4. Sanatorium Classification.—On discharge—Probably quiescent, apparently arrested (possibly).
5. Capability.—On discharge—Light work four hours per day, walking two miles per day. Capability may increase. Full capability most unlikely.
6. Critical period.—Relapse likely and early unless protected. Mortality heaviest at an earlier date than in group one.
7. Compensation.—(Pension or P. & A.)—Maximum should be maintained indefinitely.

Group III. Permanent Period—

1. Status.—Patient is totally disabled. He is fit for no regular work. Relapse is certain under employment.
2. Future.—Invalidism.
3. Sanatorium Classification.—On admission—Probably moderately advanced, far advanced, incipient (possibly).
4. Sanatorium Classification.—On discharge—Probably improved, quiescent (possibly), unimproved (possibly).
5. Capability.—On discharge—No consistent effort.
6. Critical period.—Relapse imminent. Mortality relatively early.
7. Compensation.—(Pension or P. & A.)—Maximum should be maintained *permanently.*

APPENDIX No. V

OTTAWA, September 29, 1920.

The Department of Soldiers' Civil Re-establishment,
Gravenhurst, Ont.

Tuberculous Pensioners.

SIR:

1. As requested per your letter of 16th instant, I have pleasure in submitting the undernoted for your information, and trust same may be of service to you:—

Disease.	Canada.	England.	France and other Countries.	Total.	Not included in letter but added to Appendix for the sake of clarity.
					%
Asthma	49	108	223	380	4·6
Bronchitis	289	555	2,477	3,321	40·6
Empyema	67	47	134	248	3·0
Lung injuries	5	6	505	516	6·3
Pleurisy	52	121	284	457	5·5
Tubercle of the lung	675	584	1,594	2,853	35·0
Otherwise unclassified	90	95	246	431	5·0
	1,227	1,516	5,463	8,206	100·0

2. The above figures represent the countries in which the disease was contracted, for pensions awarded from September 1, 1918, to August 31, 1920.

3. It is regretted that we cannot furnish figures from the commencement, as previous to this date no medical statistics of this nature was established.

Yours very truly,

(Sgd.) E. G. AHERN, *Secretary,*
Board of Pension Commissioners for Canada.

Per (Sgd.) J. LAWSON,
Acct.

APPENDIX No. VI

(AMERICAN) NATIONAL TUBERCULOSIS ASSOCIATION'S CLASSIFICATION OF A PATIENT'S CONDITION ON DISCHARGE FROM THE SANATORIUM

Class.	Condition.	Clinical Description.
1	Not improved.....	No evidence of improvement.
2	Improved.....	Where there has been improvement sufficient to allow the use of the term.
3	Quiescent.....	No constitutional symptoms; tubercle bacilli may be present or not; stationary or better in physical signs; all the foregoing having been present at least two months.
4	Apparently arrested.....	Signs of a healed lesion without any symptoms for three months.
5	Arrested.....	Signs of a healed lesion without relapse at end of six months under ordinary living conditions.
6	Apparently cured.....	Signs of a healed lesion without relapse at end of two years under ordinary living conditions.

BOARD OF PENSION COMMISSIONERS FOR CANADA—CERTAIN DEFINITIONS

A *disability* is the loss or lessening of the power to will and to do a normal, physical or mental act. Disabilities may be actual inabilities or they may be imposed inabilities —prohibitions.

The whole range of *inabilities* may be found under four groups:—

1. General muscular weakness (debility);
2. Loss of an organ or member, or of some or all of its functions in whole or in part;
3. The loss of, or lessened acuity of, the special senses or general sensation;
4. The loss or limitation of the action of muscles or of movement in joints.

Prohibitions are the limitations of activity imposed by medical opinion or advice. Usually these are due to the necessity for rest for therapeutic reasons.

The prohibition may effect a part of the body only, or the whole, and it may impose complete or partial rest.

Shorter hours of work or the lighter employments may fulfil the necessity for rest. Prohibitions may take the form of necessity for avoidance of exposure to weather or temperature changes, to dust or gas-laden air, to certain places of residence, or to stresses, physical or mental.

APPENDIX No. VII

DIAGNOSTIC STANDARDS OF THE AMERICAN NATIONAL TUBERCULOSIS ASSOCIATION

(Fourth Edition)

THE CLASSIFICATION OF PULMONARY TUBERCULOSIS

The National Association Classification, (with modifications suggested by Dr. W. L. Rathbun)

The classification of pulmonary phthisis has always been of interest to the medical profession, particularly to those especially interested in tuberculosis. Numerous classifications have been suggested, including those of Trudeau (1887), Grancher (1890), Frankel (1902), King (1903), etc.

The National Association classification is considered an improvement upon any previous attempts and may be stated concisely as follows:—

Incipient.—Slight infiltration limited to the apex of one or both lungs or a small part of one lobe. No tuberculous complications.

Constitutional symptons (including gastric or intestinal disturbance, or rapid loss of weight) may be slight or absent. There may be slight or no elevation of temperature or acceleration of pulse at any time during the 24 hours. The expectoration is usually small in amount or absent. Tubercle bacilli may be present or absent.

Moderately Advanced.—Marked infiltration more extensive than under incipient, with little or no evidence of cavity formation. No serious tuberculous complications and no marked impairment of function, either local or constitutional.

Far Advanced.—Extensive localized infiltration or consolidation in one or more lobes, or disseminated areas of cavity formation. Serious tuberculous complications, with marked impairment of function, local or constitutional.

Acute Miliary Tuberculosis.

In this classification, each of the three stages is based on certain specific pathological findings and clinical symptoms. Unfortunately, however, lesions and symptoms are not interchangeable, but are immobilized in each of the three stages. This is confusing, for occasionally an advanced case may present only incipient symptoms, or vice versa.

Consequently, Dr. Rathbun has suggested the listing of lesions and symptons under separate headings, thereby making it possible to classify any case in accordance with the exact extent of pulmonary involvement and nature of symptoms.

Rathbun's suggested arrangement, adopted by the American Sanatorium Association in December, 1916, is as follows:—

LESIONS	SYMPTOMS
Incipient. Slight infiltration limited to the apex of one or both lungs, or a small part of one lobe. No tuberculous complications.	A. (Slight or None) Slight or no constitutional symptoms, including particularly gastric or intestinal disturbance, or rapid loss of weight; slight or no elevation of temperature or acceleration of pulse at any time during the 24 hours. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent.
Moderately Advanced. Marked infiltration, more extensive than under incipient, with little or no evidence of cavity formation. No serious tuberculous complications.	B. (Moderate) No marked impairment of function, either local or constitutional.
Far Advanced. Extensive localized infiltration or consolidation in one or more lobes. Or disseminated areas of cavity formation. Or serious tuberculous complications.	C. (Severe) Marked impairment of function, local and constitutional.

This scheme offers definite arrangements, making feasible the exact labelling of any individual case. The following combinations are possible:

Incipient A.	Moderately Advanced A.	Far Advanced A.
Incipient B.	Moderately Advanced B.	Far Advanced B.
Incipient C.	Moderately Advanced C.	Far Advanced C.

For instance, "Incipient A" means an individual with an incipient lesion and with symptoms characteristic of the incipient stage, as defined above.

"Far advanced A," however, means an individual with a far advanced lesion, but with only incipient symptoms—a combination not infrequently met with.

It would seem that the above arrangement is an improvement upon the National Association classification, and in view of the importance of the scientific aspects of tuberculosis work now being carried on, it is hoped that the above suggestions may be studied and utilized in the classification of pulmonary tuberculosis.

APPENDIX No. VIII

D.S.C.R. TUBERCULOUS PATIENT STRENGTH AS ON 31-3-21, ANALYSED ACCORDING TO YEARS IN WHICH PATIENTS WERE ADMITTED OR READMITTED

PATIENTS TAKEN ON STRENGTH

During Year.	(a) As Primary Admissions.	(b) As Re-admissions.	Totals.
1918 (from April 1)	80	154	234
1919	300	223	523
1920	449	79	528
1921 (to March 31)	94	0	94
April 1, 1918, to March 31, 1921	923	456	1,379

Re-admissions therefore = 33 per cent of total strength (approximately).

DETAIL OF PREVIOUS TABLE BY MONTHS.
D.S.C.R. TUBERCULOUS PATIENT STRENGTH AS ON 31-3-21.

1918.	Primary Admissions.	Re-admissions.	Totals.
January	.....	.....	.....
February	.....	.....	.....
March	.....	.....	.....
April	1	2	3
May	4	9	13
June	3	18	21
July	12	32	44
August	29	41	70
September	10	12	22
October	7	14	21
November	5	12	17
December	9	14	23
Total	80	154	234
1919.			
January	7	16	23
February	19	19	38
March	11	29	40
April	23	21	44
May	28	22	50
June	19	19	38
July	23	18	41
August	49	18	67
September	30	23	53
October	34	20	54
November	27	9	36
December	30	9	39
Total	300	223	523
1920.			
January	38	19	57
February	27	13	40
March	34	9	43
April	44	5	49
May	37	6	43
June	46	8	54
July	35	7	42
August	45	4	49
September	37	2	39
October	28	1	29
November	41	4	45
December	37	1	38
Total	449	79	528
1921.			
Janaury	35	.....	35
February	41	.....	41
March	18	.....	18
Total	94	.....	94
1918, April 1 to 1921, March 31—Grand Totals	923	456	1,379

APPENDIX No. IX

PATIENTS WITH TUBERCULOSIS TAKEN ON STRENGTH OF THE DEPARTMENT S.C.R. BETWEEN 30-4-20 AND 31-3-21, SHOWING NEW CASES ADMITTED AND PATIENTS S.O.S. BY DEATH DURING THIS ELEVEN MONTHS' PERIOD.

1920.	New Cases.	Re-admissions.	Total.	S.O.S. by Death.
May	94	61	155	33
June	82	68	150	19
July	82	94	176	27
August	88	36	124	10
September	68	23	91	13
October	53	99	152	18
November	67	165	232	18
December	52	59	111	14
1921.				
January	50	72	122	24
February	62	66	128	19
March	63	27	90	20
Total (11 months)	761	770	1,531	215

COMPUTED NUMBERS OF ALL TUBERCULOUS EX-SERVICE MEN TAKEN ON STRENGTH OF D.S.C.R. TO 31-3-21 FOR TREATMENT SHOWING THOSE WHO DIED WHILE ON THE STRENGTH OF THE DEPARTMENT AND AS PENSIONERS.

Tuberculous ex-service men T.O.S., D.S.C.R., to 30-4-20	8,571	
" " " from 30-4-20 to 31-3-21	761	
Total tuberculous ex-service men S.O.S., D.S.C.R., to 31-3-21		9,332
Tuberculous ex-service men S.O.S., D.S.C.R., by death (in Sanatoria) to 30-4-20	513	
Tuberculous ex-service men S.O.S., D.S.C.R., by death (not in Sanatoria) to 30-4-20.	401	
Tuberculous ex-service men S.O.S., D.S.C.R., by death 30-4-20 to 31-3-21	215	
Total tuberculous ex-service men S.O.S., D.S.C.R., by death to 31-3-21	1,129	
Tuberculous ex-service men who died as pensioners not on strength, D.S.C.R.	81	
Total Tuberculous ex-service men treated by D.S.C.R. who died previous to 31-3-21		1,210
Total Tuberculous ex-service men treated by D.S.C.R. to 31-3-21, alive on that date...		8,122

APPENDIX No. X

Sections dealing with Tuberculosis extracted from the Third and Final Report of the Special Committee appointed by the House of Commons of Canada to consider questions relating to the Pensions, Insurance and Re-establishment of Returned Soldiers.

This Report was submitted to and approved by the House of Commons of Canada on Thursday, May 26, 1921.

AFTER-CARE OF THE TUBERCULOUS

22. Several representations respecting the after-care of tuberculous ex-soldiers were placed before your Committee. A resolution from the Great War Veterans' Association, "that a definite scheme for the after-care of the tuberculous be placed in immediate operation," generally covers the subject of all, excepting those having to do with personal representations.

The report of last year stated that a board of five specialists in tuberculosis were investigating this problem and suggested that a definite scheme for after-care, including the co-operation of voluntary organization, might later be forthcoming.

23. That board after inspecting the twenty-six sanatoria, and other institutions in Canada, where tuberculous ex-service men are being cared for, and after having made other investigations pertinent to their study of the subject, prepared several reports which were submitted to the Department of Soldiers' Civil Re-establishment. The last of these published in December was placed in the hands of your committee. It is a most comprehensive document, which deals exhaustively with the care and employment of the tuberculous ex-service man, after his discharge from sanatorium. This report will doubtless take high rank in the medical world. It has served as a basis upon which consideration was given to the subject in hand.

It is recognized by your committee that sanatorium treatment alone and unaided cannot produce the best and most permanent results and that consequently a system of after-care is essential if the results that sanatorium treatment does achieve are to be consolidated.

24. Numerous individual suggestions from various sources were placed before your committee with regard to what should be provided for the after-care of the tuberculous. Certain of these had reference to the provision of an increased pension scale, and a supplementary allowance for the benefit of the tuberculous. Your committee feels that neither of these can be endorsed, in view of the recommendation of other suggestions which make them unnecessary.

It is felt that an adequate minimum pension either for a period of years or permanently is desirable in the case of the tuberculous. This recommendation is limited in its application to ex-service men with a definite diagnosis of tuberculosis based on approved standards.

25. It has been demonstrated to the satisfaction of your committee that the majority of tuberculous ex-service men will require skilled medical advice and supervision for as long as they live. This supervision should be available for tuberculous pensioners as well as out-patients of the Department of Soldiers' Civil Re-Establishment which will necessitate an extension of the present facilities in the way of clinics and personnel designed for this purpose.

28. It has been impressed upon your committee that on therapeutic, economic and moral grounds, every ex-sanatorium patient, who is even partially fit should be

suitably employed. Opportunities for suitable employment available to the average type of ex-sanatorium patient are extremely rare in the ordinary labour and industrial markets. Philanthropists occasionally employ a few but, for the majority, opportunities for sheltered employment are only available if artificially created. Accordingly there is a real justification for the inclusion of sheltered employment in any well-balanced system of post-sanatorium care of the tuberculous.

29. It has been urged and your committee agrees that the provision of sheltered employment for the tuberculous should be in the hands of some approved non-governmental agency. The State should, however, recognize its responsibility to the ex-service tuberculous patient by initiating sheltered employment and by offering the financial assistance required for the establishment of industries and for the medical supervision of the patients. Your committee recommends that the department be authorized to conduct a survey of the tuberculous ex-service men residing in all the large Canadian cities, and to take the necessary steps to establish a substandard shop to train and employ tuberculous ex-service men in any city, where the result of the survey appears to warrant it, and where an approved non-governmental agency is available for its administration.

30. It would appear that a purely agricultural colony for the tuberculous has such narrow limits of usefulness in this country as not to warrant its establishment. Your committee agrees, however, that an industrial colony on an experimental basis warrants trial in Canada in a carefully selected location. The proposal submitted from patients at the Mountain Sanatorium, Hamilton, in this connection is worthy of most careful investigation and consideration, with a view to the provision of the necessary financial assistance, to establish industries and provide competent medical supervision under the Department of Soldiers' Civil Re-establishment. As a permanent community or village settlement for the tuberculous is the logical complement to the training colony it may ultimately develop from it.

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